



NDC  
PARTNERSHIP



# NDC

NATIONALLY DETERMINED CONTRIBUTIONS

## INVESTMENT PLAN

PAKISTAN | 2024

CLIMATE  
PROMISE





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# LIST OF ABBREVIATIONS

<b>NDC</b>	Nationally Determined Contributions
<b>Pas</b>	Priority Actions
<b>LULUCF</b>	Land-Use, Land-Use Change, and Forestry
<b>USD</b>	United States Dollars
<b>RE</b>	Renewable Energy
<b>SDG</b>	Sustainable Development Goals
<b>NCCP</b>	National Climate Change Policy
<b>SE4A</b>	Sustainable Energy for All
<b>NHWP</b>	National Hazardous Waste Policy
<b>NDRRP</b>	National Disaster Risk Reduction Policy
<b>NWP</b>	National Water Policy
<b>NDWP</b>	National Drinking Water Policy
<b>MtCO<sub>2</sub>e</b>	Millions Ton Carbon Dioxide Emissions
<b>BTAP</b>	Billion Trees Afforestation Program
<b>EV</b>	Electric Vehicles
<b>M</b>	Million
<b>AJK</b>	Azad Jammu & Kashmir
<b>GB</b>	Gilgit-Baltistan
<b>KPK</b>	Khyber Pakhtunkhwa
<b>ARE</b>	Alternate Renewable Energy
<b>NHWP</b>	National Hazardous Waste Policy
<b>NEP</b>	National Electricity Policy
<b>MoCC&amp;EC</b>	Ministry of Climate Change and Environmental Coordination
<b>MOPDSI</b>	Ministry of Planning Development and Special Initiatives
<b>NEVP</b>	National Electric Vehicle Policy
<b>NAP</b>	National Adaptation Plan
<b>EPA</b>	Environmental Protection Agency
<b>CSR</b>	Corporate Social Responsibility
<b>IFC</b>	International Finance Corporation
<b>VCM</b>	Voluntary Carbon Markets
<b>GEF</b>	Green Environment Facility
<b>GCF</b>	Green Climate Fund
<b>KOICA</b>	Korea International Cooperation Agency
<b>ADB</b>	Asian Development Bank
<b>IsDB</b>	Islamic Development Bank
<b>WB</b>	World Bank





## EXECUTIVE SUMMARY

The NDC Investment Plan for Pakistan presents a comprehensive strategy for mobilizing financial resources to implement ambitious climate action commitments outlined in its Nationally Determined Contribution (NDC) Implementation Plans. The updated NDC, in line with the Paris Agreement, sets a conditional target of a 50% reduction in emissions by 2030, with a significant reliance on international grants. Priority actions, totaling USD 2,367 million, have been identified at federal and provincial levels to achieve mitigation, adaptation, and socioeconomic development goals. Supporting plans and policies across various sectors, such as energy, industry, agriculture, waste, land use, forestry, disaster preparedness, and health, complement these actions. Despite a strong foundation, gaps in awareness, blue carbon initiatives, electric vehicle adoption, data monitoring, and financing strategy require attention for effective implementation and achievement of climate goals in Pakistan. Strengthening alignment between priority actions and policies is crucial for building a resilient and sustainable future.

Pakistan's financial needs and challenges in implementing climate-related commitments, specifically its Nationally Determined Contributions (NDCs) are also focused on this Plan. Pakistan requires substantial international financial support, estimated at nearly USD 348 billion by 2030, to achieve emission reduction targets. The analysis covers domestic public finance, private sector involvement, and international, bilateral, and multilateral finance. Challenges include gaps in budgeting processes, lack of a national green taxonomy, limited success in accessing international funds, and coordination issues. Overcoming these challenges is crucial for Pakistan to effectively address climate change and move towards a more sustainable future. The NDC Investment Plan is deemed crucial for achieving Pakistan's ambitious climate goals, facilitating a transition to a sustainable, low-

carbon economy, and building resilience against climate change impacts. The plan underscores the importance of international cooperation and financial support for a successful and equitable climate transition in Pakistan.

The plan also addresses governance and coordination challenges in climate finance in Pakistan, emphasizing the role of the Ministry of Climate Change & Environmental Coordination (MoCC&EC) and the decentralized nature of climate-related responsibilities post the 18th Amendment. The Prime Minister's Committee on Climate Change (PMCCC) is inactive, and the Pakistan Climate Change Council now monitors actions. The challenges include a lack of coordination between federal and provincial levels, limited data visibility, strict protocols for accessing finance, and insufficient integration of climate change into budgeting. Opportunities include advocating for climate-sensitive budgeting through the integration of climate considerations into project planning and exploring the potential of inter-provincial collaboration, emphasizing transparency and accountability. The document recommends actions such as developing handbooks for public expenditure on climate change, optimizing the Council of Common Interest's potential, and updating the legal framework to address climate change issues explicitly. NGOs' contributions, financial audits, and the inclusion of climate change as an indicator for fiscal transfers are also highlighted. Addressing these challenges and leveraging opportunities is crucial for effective climate finance management and achieving Pakistan's climate goals.

In addition, the document assesses the allocated budget in the Annual Development Programme and Public Sector Development and addresses the gaps and investment required to fulfill the NDC commitments of Pakistan for each province focusing on all the priority sectors of Energy, Health, Agriculture, LULUCF, Waste and Industry.

Furthermore, the funding options are assessed such as establishing a green taxonomy, making a green investor forum, and integrating Article 6/Carbon markets in the Domestic Private, and International Finance of the Country to ensure improved finance mobilization. Lastly, the plan provides priority actions/recommendations, their lead identities, and their timeframe for implementation for all sectors (Energy, Industry, Waste, Agriculture, LULUCF, and Health) and suggests actions for the inclusion of gender and youth in climate decision-making.

Pakistan's NDC Investment Plan lays out a bold vision for a sustainable future, fueled by ambitious climate action and robust financial backing. While challenges like data gaps and international support remain, the plan presents a clear roadmap. By harnessing innovative financing, strengthening governance, and fostering collaboration, Pakistan can unlock its potential, transforming its climate goals into a thriving reality.



# INTRODUCTION

## 2.1 Purpose of the Document

The NDC Investment Plan provides a comprehensive roadmap for mobilizing and allocating financial resources to implement Pakistan's ambitious climate action commitments outlined in its Nationally Determined Contribution (NDC) Implementation Plans developed at the federal and provincial levels. This plan is a critical tool for guiding national and international investments toward achieving Pakistan's climate goals, ensuring a sustainable and resilient future for the country.

## 2.2 Introduction to Pakistan's Updated NDC and NDC Implementation Plans

In line with its international commitments under the Paris Agreement, Pakistan submitted its updated NDC in 2021, which intends to set a cumulative ambitious conditional target of an overall 50% reduction of its projected emissions by 2030, with 15% from the country's resources

and 35% subject to the provision of international grant. To reach the target, Pakistan aims to shift to 60% renewable energy and 30% electric vehicles by 2030 and ban imported coal altogether. Moreover, Pakistan seeks to expand Nature Based Solution (NBS) by implementing the Ten Billion Trees Tsunami Project (TBTP), Recharge Pakistan, and Protected Area Initiative PAI. Pakistan's emissions as of 2018 are 489.87 MtCO<sub>2</sub>e; the Billion Trees Afforestation Project (BTAP) and TBTP will sequester CO<sub>2</sub> around 500 Mt CO<sub>2</sub>e by 2040 if implemented fully. Pakistan must strengthen its scientific and technical capacities to meet the transition targets.<sup>1</sup>

Ministry of Climate Change and Environmental Coordination, Government of Pakistan with the support from the UNDP initiated the development of NDC implementation plans at federal and provincial levels. The development of the plans followed an inclusive process where line ministries and provincial departments were

Table 1: Total Estimated Cost - NDC Implementation Plans 2023

Thematic Segment	No. of Projects with Financial Portfolio															
	Federal		Punjab		Sindh		Azad Jammu & Kashmir		Gilgit Baltistan		Balochistan		Khyber Pakhtunkhwa		Total	
	No. of Projects	Estimated Cost (USD M)	No. of Projects	Estimated Cost (USD M)	No. of Projects	Estimated Cost (USD M)	No. of Projects	Estimated Cost (USD M)	No. of Projects	Estimated Cost (USD M)	No. of Projects	Estimated Cost (USD M)	No. of Projects	Estimated Cost (USD M)	No. of Projects	Estimated Cost (USD M)
Mitigation + Socio-Economic	7	350	6	300	7	375	5	120	4	96	4	96	5	205	38	1,542
Mitigation + Adaptation + Socio-Economic	2	80	2	110	2	105	2	75	2	55	2	75	2	75	14	575
Adaptation + Socio-Economic	1	40	1	50	1	40	1	25	1	25	1	25	1	45	07	250
<b>Total</b>	<b>10</b>	<b>470</b>	<b>9</b>	<b>460</b>	<b>10</b>	<b>520</b>	<b>8</b>	<b>220</b>	<b>7</b>	<b>176</b>	<b>7</b>	<b>196</b>	<b>8</b>	<b>325</b>	<b>59</b>	<b>2,367</b>

1. Government of Pakistan. (2021). Nationally Determined Contribution (NDC) of Pakistan under the Paris Agreement. Ministry of Climate Change, Government of Pakistan.

consulted and identified priority actions for each sector based on local needs. The regional and provincial NDC Implementation Plans of Pakistan 2023 have identified 59 Priority Actions (Pas) for mitigation, adaptation, and socio-economic development of the country, which require a total funding of USD 2,367 M. All the sectoral and provincial Priority Actions (Pas) include Gender and Youth involvement perspectives.

### 2.3 Supporting Plans and Policies

Pakistan faces significant challenges in achieving climate resilience and sustainable development. To address these challenges, the country has formulated various policy documents ([ANNEX-III](#)) and identified key priority actions (PAs) in the NDC Implementation Plans. These plans outline a comprehensive approach to tackling climate change and fostering sustainability across various sectors.

The Energy Sector PAs prioritize renewable energy projects, grid infrastructure development, and exploring a hydrogen economy. Alternate Renewable Energy (ARE) Policy 2019, Sustainable Energy for All (SE4A) 2019, National Electricity Policy (NEP) 2021, National Electricity Plan (NEP) 2023, National Energy Efficiency and Conservation Policy and Plan 2023, Generation and Transmission Expansion Plans and National Climate Change Policy (NCCP) 2021 support these goals by aiming to increase renewable energy share to 30% by 2030, promote local manufacturing, and improve grid infrastructure. The Industry Sector PAs focus on establishing greenhouse gas baselines, implementing MRV mechanisms, and adopting emissions capping. The NCCP 2021, NEP 2021, and National Clean Air Policy (NCAP) 2023 align with these objectives, promoting energy efficiency, emission reduction, and achieving net-zero emissions.

The Agriculture Sector PAs emphasize sustainable practices like high-efficiency irrigation, renewable energy integration, and Climate Smart Agriculture. The National Food Security Policy (NFSP) 2018, National Water Policy (NWP) 2018, National Water Conservations Strategy

(2023-2027), SE4A 2019, and NCCP 2021 support these efforts by focusing on climate-smart agriculture, efficient water management, and promoting sustainable food production systems aiming for a 15% increase in irrigation efficiency by 2030. The Waste Sector PAs encourage waste reduction schemes, 4R implementation, and scientific landfills. The NCCP 2021 and National Hazardous Waste Policy (NHWP) 2022 support these goals by aiming to reduce waste generation, improve management practices, and comply with international standards.

The Land Use, Land-Use Change and Forestry (LULUCF) sector PAs prioritize eco-tourism, afforestation, wildlife preservation, and ecosystem restoration. The NCCP 2021 and National Adaptation Plan (NAP) 2023 align with these objectives by emphasizing forest conservation, biodiversity protection, and enhancing resilience against climate impacts. The Disaster Preparedness and Health Sector PAs focus on digitalization, early warning systems, disaster management programs, and sustainable health management. The National Disaster Risk Reduction (NDRR) Policy 2013, National Drinking Water Policy (NDWP) 2019, NCCP 2021, and NAP 2023 support these goals by promoting technological solutions, ensuring well-being, improving disaster preparedness, and building resilience against climate-related risks.

While the PAs and policies demonstrate a strong foundation for tackling climate change in Pakistan, some gaps require attention. Awareness raising, blue carbon initiatives, electric vehicle adoption, and comprehensive data/monitoring systems need further development and alignment with existing plans. Additionally, a robust financing strategy is crucial for effective implementation. By addressing these gaps and strengthening the alignment between PAs and policies, Pakistan can build a stronger foundation for achieving its climate goals and ensuring a sustainable future for its citizens.

### 2.4 Government's Climate-Relevant Projects

The Punjab Green Development Program (PGDP), supported by the World Bank, works on strengthening

environmental governance and improving green investments. In AJK, the Kashmir Welfare Foundation and the Green Pakistan upscaling program are focusing on reforestation, urban greening, watershed management, and sustainable energy initiatives. Projects in AJK, including those under the CPEC underscore the integration of climate change, ensuring sustainability and biodiversity preservation. In Gilgit Baltistan, various initiatives, such as the Sui Northern Air mix gas pilot project and the solar power plant in Hunza are initiated as a commitment towards renewable energy and improved livelihoods.

Furthermore, the Planning Commission is formulating a five-year plan, outlining potential projects open for investment across sectors. The Ministry of Finance plays a pivotal role in finalizing projects in collaboration with the Economic Affairs Division and Planning Commission to address the need for technical and financial capacity-building. NEECA has taken a proactive approach with the NEC Action Plan 2023-2030, aligning with Pakistan's NDCs. The plan consists of six categories and 257 action areas, and it aims to attract an investment of \$8 billion. Implementing projects with domestic resources and available finances is under focus. NEECA's provincial action plans under development will focus on priority areas, scope finalization, project cost estimations, and challenges identification for effective implementation.

## 2.5 Financial needs and present strategies

Pakistan's financial needs for climate action are substantial, estimated to be USD 101B by 2030 in the Nationally Determined Contributions and up to USD 2,367M for 59 Priority Actions addressed in the NDC Implementation Plans.<sup>2</sup> To meet these needs, Pakistan is pursuing a diversified approach, including:

- **Domestic resource mobilization:** Pakistan is exploring mechanisms to mobilize domestic resources, such as Green Bonds, Catastrophe Bonds, Climate Bonds, Social Bonds, Sustainability bonds, Blue bonds, and carbon pricing instruments, to support its climate investments.
- **Private sector engagement:** Pakistan encourages participation in climate action, provides incentives, and facilitates partnerships to leverage private capital.
- **International climate finance:** Pakistan actively seeks international support, such as grants and concessional loans, to finance its climate action projects.

Pakistan's NDC Investment Plan is a critical step towards achieving the country's ambitious climate goals. Through effective implementation of this plan, Pakistan can transition to a sustainable, low-carbon economy while building resilience to the impacts of climate change. The program also highlights the need for international cooperation and financial support to ensure a successful and equitable transition for Pakistan.

2. Government of Pakistan. (2021). Nationally Determined Contribution (NDC) of Pakistan under the Paris Agreement. Ministry of Climate Change, Government of Pakistan.



# FINANCIAL ANALYSIS/INVESTMENT NEEDS

The following section provides the assessment of the investment needs of Pakistan to implement the Priority Actions for fulfilling the NDC commitments of Pakistan.

## 3.1 The Climate Finance Landscape In Pakistan

The World Bank has projected the aggregate investment requirements for Pakistan's climate-related challenges from 2023 to 2030 are approximately US\$348 billion. This allocation encompasses US\$152 billion (44%) dedicated to adaptation and resilience efforts and US\$196 billion (56%) for decarbonization (mitigation). The World Bank calculated the figure of USD 348 billion for Pakistan's climate and development financing needs by estimating costs across various sectors and initiatives. This includes improving wastewater management, strengthening municipal solid waste management, universal water and sanitation coverage, disaster preparedness and response, modernization of irrigation systems, low-carbon power supply, phase-out of coal, transport decarbonization, and energy efficiency measures in various industries. Each sector has its estimated costs based on different studies, strategies, and developmental goals set for the period up to 2030. This amount exceeds the country's historical average annual development budget.<sup>3</sup> The Climate finance landscape in Pakistan consists of Domestic, Private, International, Bilateral, or multilateral funds, covered below.

### 3.1.1 Domestic Public Finance

Domestic sources contributed 16% (USD 650M) of the total climate finance tracked. This included domestic public and private sector sources accounting for 11% (USD 450M) and 5% (USD 200M).<sup>4</sup> The financial flows were mainly targeted for mitigation projects in Energy (64.2%), Transport (4.7%), Agriculture, Forestry, and Fishing (0.8%), Water and Sanitation (12.3%), and others (18%). Plans and programs that currently exist or have the potential to be implemented shortly are discussed below:

The **Public Sector Development Programme (PSDP)** is an operational and integral part of public sector investment prepared by the federal government in close coordination with all stakeholders. The overall goal of the PSDP is to improve the living standards of the public. Also, the **Annual Development Programme (ADP)** is a comprehensive plan outlining Pakistan's government's priorities and investments for the upcoming fiscal year for each province. The ADP 2022-23 for Environment and Climate Change (ECC) focuses on addressing the challenges of climate change and promoting sustainable development. The PSDP and ADP include the following **(Table 2)** budgets allocated for Climate Change/ Environment for the year 2022-23 in Pakistan.<sup>5,6,7,8,9,10,11</sup>

3.

4. UK International Development, Accelerating Green and Climate Resilient Financing in Pakistan, November 2023

5. [https://www.pc.gov.pk/uploads/archives/PSDP\\_2022-23\\_Final.pdf](https://www.pc.gov.pk/uploads/archives/PSDP_2022-23_Final.pdf)

6. <https://pnd.punjab.gov.pk/system/files/ADP%202022-23.pdf#overlay-context=ADP202223>

7. <https://pnd.sindh.gov.pk/reports>

8. <https://www.pndajk.gov.pk/adp.php?filep=ADP/2022-23>

9. <https://pndkp.gov.pk/download/adp-2022-23/>

10. <https://www.finance.gob.pk/wp-content/uploads/2023/07/ABS-2023-24.pdf>

11. [https://portal.pnd.gog.pk/Content/Files/ADP/ADP%202022-23\\_220125109.pdf](https://portal.pnd.gog.pk/Content/Files/ADP/ADP%202022-23_220125109.pdf)



Table 2: Province/Region Climate Change Budget Allocation in Pakistan 2022-23

Province/Region	Climate Change/Environment Budget (USD Million)
<b>Public Sector Development Programme (PSDP) 2022-23</b>	
Federal	33.73
<b>Annual Development Programme (ADP) 2022-23</b>	
Punjab	17.80
Sindh	4.26
Azad Jammu & Kashmir	0.35
Khyber Pakhtunkhwa	0.17
Balochistan	1.43
Gilgit-Baltistan	0.62

However, several gaps in the current budgeting process must be addressed to ensure climate-sensitive decision-making is taking place. For example, there is a lack of clear guidance on how to integrate climate change considerations into budget decisions, and there is a need for more training and capacity building for officials on climate change issues. Pakistan does not fully understand the specific local-level risks associated with climate change. This risk modeling is a building block upon which adaptation and resilience strategies are developed. The lack of quantification of the cost of inaction is hampering the development of an evidence-based prioritized project pipeline and the effective allocation of resources to the most critical Adaptation and Resilience projects.

The fight against climate change requires significant investments in sustainable economic activities. To ensure that these investments are truly impactful, a clear and consistent understanding of what constitutes “green” is essential, which is where a green taxonomy comes in, which is a system that aims to determine whether an

investment is sustainable or not. Pakistan is yet to develop a **national green taxonomy** (framework) that aligns with the country’s most pressing climate priorities.<sup>12</sup> This taxonomy will guide the climate investment community to ensure the suitable classification of green initiatives, and there is a need for more data and information on the potential impacts of climate change on different sectors of the economy to inform budget decisions. [Annex I](#) gives a list of potential financing mechanisms that can help leverage investment into the country, provided adequate frameworks are implemented.

### 3.1.2 Private Finance

Private Finance is considered with the expenditure and revenue of individuals and business firms. Pakistan’s financial sector remains small and plays only a minor role in financing the private sector.

**CSR is crucial in shaping a sustainable and socially responsible** business landscape. CSR encompasses various initiatives and actions businesses take to contribute positively to society and the environment

12. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

while benefiting their bottom line. In Pakistan, CSR campaigns have been vital in education, healthcare, and environmental conservation.<sup>13</sup>

The most significant source of potential private finance for climate change adaptation measures stems from investment and **financial lending operations**. For Example, Green Bonds are fixed-income instruments designed to support specific climate-related or environmental projects.

**Carbon markets are becoming an indispensable tool in the global climate fight**, with carbon pricing instruments now covering over 20 percent of global greenhouse gas emissions, generating USD 53B in revenue at the end of 2021.<sup>14</sup> In 2023, the voluntary and compliance carbon markets are massive, as the voluntary market is worth USD 2B, and the compliance market is worth a whopping USD 851B across only 30 markets worldwide.<sup>15</sup> Pakistan is trying to set up a carbon market to meet its conditional NDC targets. Carbon markets would allow Pakistan to meet its Nationally Determined Contributions (NDCs) targets.

The role of the private sector is essential in meeting the investment needs of NDC commitments, but the overall investment level has been low.<sup>16</sup> Political and economic instability and uncertainty regarding policy continuity, regulatory frameworks, and weak economic structures are among the significant reasons that have created a challenging environment for potential investors in Pakistan, as it discourages the financiers from committing to long-term climate finance projects in the country.<sup>17</sup> Moreover, there is a significant gap between the amount

of climate finance needed to address Pakistan's climate challenges and the amount of currently available finance. This gap is mainly due to the limited availability of domestic climate finance and the challenges in accessing international climate finance.

### 3.1.3 International, Bilateral, and Multilateral Finance

Pakistan has not succeeded in accessing international climate finance at scale.<sup>18</sup> This will be necessary as the investments needed to build climate resilience and accelerate a transition from fossil fuels will be substantially out of domestic capital reach. Utilization of the Green Climate Fund (GCF) such as the Global Environment Fund (GEF), Adaptation Fund (AF), and Mitigation Action Facility (MAF), and significant bilateral and multilateral funding streams such as Internationale Klimaschutzinitiative Initiative (IKI), Multilateral Fund (MLF), Clean Energy Financing Partnership Facility (CEFPF), Forest Carbon Partnership Facility (FPCF), Fair Climate Fund (FCF), and Climate Change Technical Assistance Facility (CCTAF) has been limited. For example, GCF has approved USD10.8 B for 200 projects globally, but only USD 221M (2%) is for six projects in Pakistan. This is less than Pakistan's peer countries. For example, Bangladesh ranks similarly vulnerable to climate change and has accessed nearly twice as much GCF financing (USD 441M).<sup>19</sup>

On bilateral cooperation, Pakistan has been engaged in a few diplomatic missions in Pakistan to mobilize climate finance. In 2021, **Germany and Pakistan** signed a Climate and Energy Partnership agreement. This Partnership

13. [https://www.techtarget.com/searchcio/definition/corporate-social-responsibility-CSR#:~:text=Corporate%20social%20responsibility%20\(CSR\)%20is,the%20related%20term%20corporate%20citizenship.](https://www.techtarget.com/searchcio/definition/corporate-social-responsibility-CSR#:~:text=Corporate%20social%20responsibility%20(CSR)%20is,the%20related%20term%20corporate%20citizenship.)

14. <https://www.adb.org/sites/default/files/institutional-document/874256/adotr2023bp-carbon-pricing-developing-asia.pdf>

15. <https://terrapass.com/blog/overall-size-of-carbon-offset-markets/#:~:text=The%20voluntary%20and%20compliance%20carbon,across%20only%2030%20markets%20worldwide.>

16. World Bank, "Foreign Direct Investment, Net Inflows (% of GDP) – Pakistan" (World Bank website, 2020), <https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS?locations=PK>.

17. [https://issi.org.pk/wp-content/uploads/2023/07/IB\\_Nida\\_Batool\\_July\\_10\\_2023.pdf](https://issi.org.pk/wp-content/uploads/2023/07/IB_Nida_Batool_July_10_2023.pdf)

18. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

19. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

involves a close political dialogue, efforts to strengthen bilateral development cooperation, and engagement with the private sector, scientific institutions, and civil society organizations.<sup>20</sup> The **European Union (EU)** supports Pakistan's climate change mitigation and adaptation efforts through various initiatives such as renewable energy development, climate-resilient infrastructure, and disaster risk reduction.<sup>21</sup> **United States Agency for International Development's (USAID)** current country development cooperation strategy for Pakistan focuses on fostering a more stable, peaceful, and prosperous country. To achieve this, USAID is partnering with the Government of Pakistan to expand the writ of government along the Afghanistan-Pakistan border region, promote peaceful communities in critical areas, increase private-sector-led, inclusive economic growth, and strengthen global health security capacities.<sup>22</sup>

**Multilateral Funds through** the banks foster economic and social progress in developing countries by financing projects, including adaptation measures, such as the **World Bank, International Finance Corporation, Asian Development Bank, European Investment Bank, and Islamic Development Bank.** Pakistan's recent and new World Bank commitments had the highest contribution of climate co-benefits CCBs<sup>17</sup>, which reached 44% in FY21 (up from 34% in FY20) and is the highest in South Asia's WB portfolio and among the highest in the World.<sup>23</sup>

Gaps hinder the uptake of these opportunities. For example, Pakistan's government and institutions cannot effectively develop and implement climate-resilient projects, which hinders their ability to access international climate finance. There is a lack of coordination between different government ministries and agencies involved in climate change finance, leading to inefficiencies and delays in project approvals. Also, many potential project proponents in Pakistan are unaware of the available international climate finance

mechanisms and the requirements for accessing these funds. Mobilizing international climate finance remains a challenge at all levels, from local project conception to national implementation. Complex application procedures often hinder local communities and lack the expertise to navigate them effectively. Once applications are submitted, administrative delays hinder the process due to poor inter-governmental coordination and limited capacity at the provincial and national levels. This lack of support also extends to feasibility studies, where crucial funding is often scarce, further impeding project development.

Moreover, in November 2023, participants at COP28 in Dubai reached a consensus to activate a fund addressing loss and damage. This fund aims to assist countries susceptible to the adverse impacts of climate change. There has been a lack of tangible advancement since then, rendering the loss and damage fund presently inaccessible. Furthermore, Pakistan must assess and quantify the climate change-induced losses and damages it has incurred to position itself for future access to this fund. Failure to take timely and appropriate measures may result in the missed opportunity to access these crucial resources.

In conclusion, Pakistan faces a significant challenge in mobilizing the financial resources needed to implement its NDCs and build a more resilient and sustainable future. While domestic resources and private sector investments offer some potential, accessing international climate finance will be crucial to achieving these goals. Addressing the challenges hindering Pakistan's ability to access international climate finance effectively, such as limited capacity and lack of coordination, will require a concerted effort from all stakeholders. This includes strengthening institutional capacity, improving government collaboration, raising awareness, and creating a stable investment environment. Additionally,

20. <https://www.bmz.de/en/countries/pakistan/core-area-energy-55772#:~:text=In%202021%2C%20Germany%20and%20Pakistan,institutions%20and%20civil%20society%20organisations.>

21. <https://www.undp.org/sites/g/files/zskgke326/files/2022-06/Advocacy%20Brief%20Financing%20Climate%20Action%20in%20Pakistan.pdf>

22. <https://www.usaid.gov/pakistan>

23. <https://unfccc.int/sites/default/files/NDC/2022-06/Pakistan%20Updated%20NDC%202021.pdf>

developing a national green taxonomy is crucial for channeling investments toward sustainable projects and ensuring efficient resource allocation. By addressing these challenges and implementing effective strategies, Pakistan can overcome its financial hurdles and embark on a path towards a more sustainable future.

### 3.2 Governance and Coordination for Climate Finance

In Pakistan, the **Ministry of Climate Change & Environmental Coordination (MoCC&EC)** is responsible for policy and planning climate adaptation and mitigation policies as well as supporting the mobilization of climate finance.<sup>24</sup> It coordinates with all provincial departments, local administrations, research institutes, donor agencies, international authorities, and other line ministries of the federal government, such as the National Disaster Management Authority (NDMA), Ministry of Energy, Ministry of Industries and Production, and Ministry of National Food Security, etc. The Prime Minister's Committee on Climate Change (PMC) was a predominant entity that monitored all climate-related actions at global and local levels, but it is not functional anymore.<sup>25</sup> Currently, the Pakistan Climate Change Council formulated through the Pakistan Climate Change Act (2017) is responsible for monitoring all climate-related actions. Additionally, the **Ministry of Planning, Development, and Special Initiatives (MPDSI)** and the **Ministry of Finance (MoF)** are the two top-level bodies responsible for coordinating the allocation and implementation of **fiscal resources**.<sup>26</sup> Furthermore, the Ministry of Economic Affairs, Economic Affairs Division is responsible for the assessment of requirements, programming, and negotiations for external economic assistance from foreign governments and organizations.<sup>27</sup>

The **18th Amendment** to the Constitution of Pakistan passed in 2010 gave significant powers to the provinces, including environmental matters. As a result of decentralization, climate change and the environment became a provincial-level subject, giving authority to provinces to implement climate change and environmental conservation actions. Consequently, gaps in coordination between Federal and provincial units increased. Pakistan's Climate Change Act (2017) streamlines the national set-up for NCCP implementation. While the Act supports a federal-level governance framework, it does not identify a provincial-level management framework to roll out the policy. For climate change management, this has led to a disconnect between the two tiers of governance<sup>28</sup>. This disconnect leads to inequitable resource distribution, hinders progress on climate goals, and restricts collaboration between federal and provincial entities. Addressing this disconnect requires developing a clear provincial framework, investing in provincial capacity building, promoting collaboration, and ensuring transparency and accountability in managing climate finance.

At the sub-national level, separate provincial environmental legislations, institutions, climate change cells, and Environment Protection Authorities (EPAs) exist. Provinces have line ministries for each sector focused on NDCs, and focal persons for NDC coordination are assigned by MoCC&EC at the provincial level. Further, coordination with district-level agencies that are involved in climate change policy implementations is supervised by provinces<sup>29</sup>. The Planning Department of Punjab has launched its First Climate Finance Cell, like the Climate Finance Unit of KPK coming under the planning and development board of KP, whose focus will

24. UNDP, Pakistan-Climate Public Expenditure, and Institutional Review (CPEIR) working towards a More Efficient and Effective Allocation and Use of Climate change Related Finance.

25. Qamar-uz Zaman, Climate Change Profile of Pakistan

26. Acerbi, Opportunities for a Clean and Green Pakistan, A Country Environmental Analysis.

27. <https://ead.gov.pk/Overview#:~:text=The%20functions%20and%20responsibilities%20of,Rules%20of%20Business%201973%20are%3A&text=Assessment%20of%20requirements%2C%20programming%20and%20negotiations%20for%20external%20economic,from%20foreign%20governments%20and%20organizations.>

28. Masud, S., & Khan, A. (2023). Policy implementation barriers in climate change adaptation: The case of Pakistan. *Environmental Policy and Governance*.

29. UNDP, Pakistan-Climate Public Expenditure and Institutional Review (CPEIR).

be on mobilizing resources, facilitating deployment, and monitoring the impacts of climate action funding.

Moreover, KPK has implemented a system to oversee and monitor critical development initiatives to streamline and accelerate the progress of projects and ensure their timely completion. The tracking and monitoring process has commenced for 214 significant projects, with 27 departments inputting project information into the system. Furthermore, on approval from the Planning and Development Department, KPK, a specialized monitoring mechanism will be employed to assess the progress and pace of work on these projects. The platform has been designed to categorize details of public-private partnerships, federally funded projects, initiatives under CPEC, and projects initiated with international funding.<sup>30</sup>

Whereas in Punjab Information Technology Board (PITB), in collaboration with the Punjab Planning and Development Department has developed an online monitoring system for tracking development finance. This system addresses the information gaps among various stakeholders, reducing delays and enhancing transparency and efficiency in the implementation of the Mid-Term Development Framework (MTDF) and Annual Development Programme (ADP).<sup>31</sup>

However, the strength of linkages between **planning/policy** documents and **budget formulation** at the provincial level has become weaker after the 18<sup>th</sup> Amendment.<sup>32</sup> Before the amendment, the federal government provided oversight, ensuring provincial budgets aligned with national priorities. However, devolution led to diverse priorities and limited

coordination mechanisms, hindering efficient resource allocation and progress toward national goals. Addressing this disconnect requires strengthening coordination, building provincial capacity, and adopting a data-driven approach to budget allocation, all while ensuring clear national priorities guide provincial planning and resource utilization. The budget for projects is allocated by the federal administration to the local governments and departments; the Federal Finance and Planning division has a vital role in allocating **fiscal resources** and **climate funds** across sectors and departments. Such centralized controls discourage line ministries from saving on wages and diverting funds, so re-allocating funds in line ministries needs approval from the federal finance division.

Furthermore, climate change in **budget allocations** is a low priority as line ministries usually care about their key sectoral development policies without considering climate sensitivities.<sup>33</sup> For instance, the budget allocation in Sindh was only PKR 157M in the fiscal year 2019, and that of Baluchistan was 7.3 percent to 11.3 percent of the total development expenditure.<sup>34</sup> The lack of linkages between the NCCP implementation framework and the devolved governance set-up has created several barriers, as stated above, which has challenged the development of an effective response to climate change adaptation.

Pakistan's climate finance governance and reporting is fragmented, with responsibilities across several line ministries. This fragmentation of responsibilities is hampering cooperation and development partner coordination within the climate finance space.

30. <https://pndkp.gov.pk/2021/08/31/meeting-on-development-projects-tracking-and-monitoring-system/>

31. <https://pitb.gov.pk/smdp>

32. <https://www.undp.org/pakistan/publications/climate-public-expenditure-institutional-review#>

33. <https://www.undp.org/pakistan/publications/climate-public-expenditure-institutional-review#>

34. Afzal, S., & Akhtar, S. (2021). MAINSTREAMING CLIMATE CHANGE IN POLICY PROCESSES OF PAKISTAN. ISSRA Papers, 13, 75-100.

The following (Figure 1) shows the Climate Finance Governance in Pakistan at the Federal and Provincial levels.

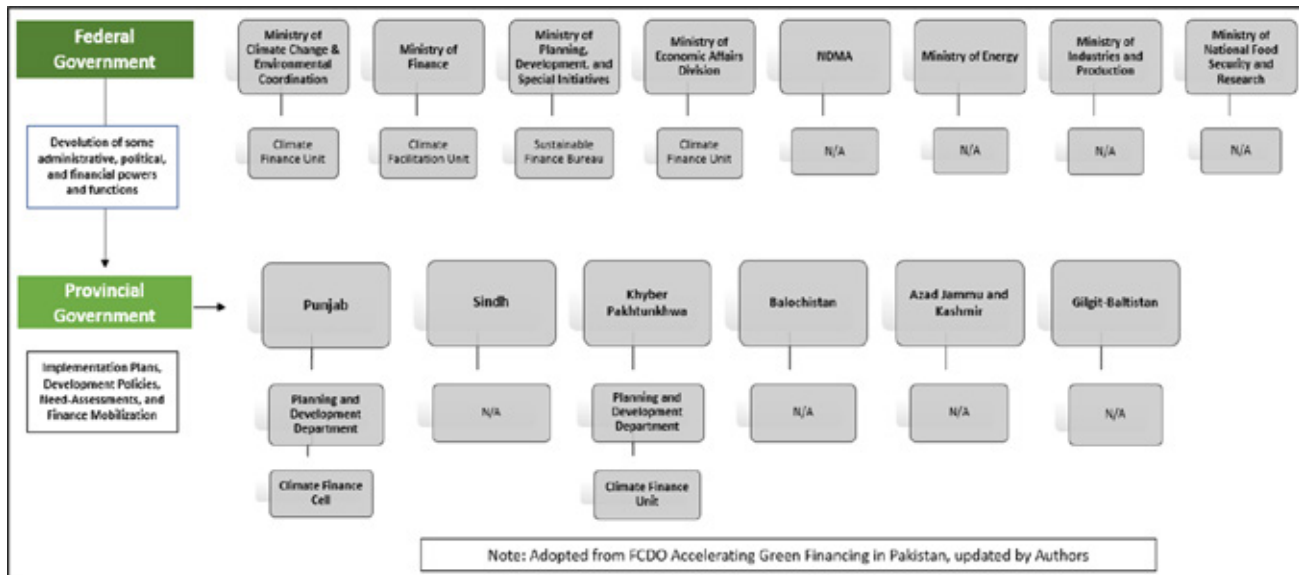


Figure 1 - Climate Finance Governance in Pakistan<sup>35</sup>

There are different climate finance/facilitation units with overlapping responsibilities at the federal level and provincial levels. Provinces are largely working independently, with a lack of coordination with relevant ministries, and a lack of alignment of activities with national strategies and climate roadmaps. These units were created to enhance coordination and communication amongst the provincial ministries and with the federal ministries as well, but they are not fully functional yet. Furthermore, there is limited alignment with external stakeholders as there is only ad-hoc coordination with the Climate Finance Development Partners Coordination Group (CFDPCG) and private sector players, leading to sub-optimal allocation of resources and limited contribution to NDCs.<sup>36</sup>

### 3.2.1 Challenges in Governance and Coordination

#### 3.2.1.1 Lack of Data, Information and Visibility

Accessing and utilizing climate finance effectively in Pakistan is hampered by significant gaps in data and information. There is no central repository for information on climate finance inflows, making it difficult to track progress and measure impact. The absence of a comprehensive database also fuels concerns about mismanagement and resource allocation, further eroding trust in the system. Additionally, data management and sharing across different sources are inconsistent and lack standardization, further hindering analysis and decision-making. These shortcomings create an opaque environment where opportunities for collaboration and informed action are missed.<sup>37</sup>

35. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

36. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

37. Shah, S. A., Yousuf, I., Ahmad, B., Shahzad, T., Khan, I. H., Ayaz, S., & Sohail, M. (2023). Climate Investment Plan for Punjab, Sindh, Balochistan and Ministries of Energy, Water and Agriculture, Food Security & Research.

### 3.2.1.2 Limited Operational Capacity and Strict Protocols

Accessing climate finance often requires navigating complex application processes and meeting tight deadlines, which can be daunting for ministries with limited resources and technical expertise. Short deadlines for submitting funding proposals further reduce participation, while a lack of technical expertise in government agencies hinders the development of strong climate change projects and proposals. These barriers limit Pakistan's ability to use valuable resources to address climate challenges.<sup>38</sup>

### 3.2.1.3 Provincial-level Challenges

The decentralization process has created a disconnect between federal and provincial levels, posing challenges to the effective implementation of climate change policies and projects. The proposed institutions outlined in the 2017 Climate Change Act were never established, leaving a gap in coordination and accountability. Weak coordination and communication gaps limit collaboration and resource sharing, while limited capacity at the provincial level hinders the efficient management and execution of climate finance initiatives. Additionally, concerns about inequitable resource distribution across provinces raise questions about the fairness and effectiveness of the current system. Furthermore, the absence of a central entity to oversee and coordinate climate finance activities across different levels of government and stakeholders creates roadblocks to effective implementation.

### 3.2.1.4 Integration of Climate Change into Budgeting

Climate change remains a low priority in budget allocations, leading to limited funding for adaptation and mitigation projects. This is partly due to the weak linkages between the National Climate Change Policy (NCCP) and provincial planning processes, hindering the effective translation of national goals into local action. Moreover,

budgetary processes often lack a climate-sensitive lens, failing to consider the long-term implications of decisions on climate resilience and sustainability.

### 3.2.1.5 Financial Management

The current system for managing climate finance suffers from overlapping responsibilities at the federal level, leading to confusion and inefficiency. Additionally, provincial engagement in climate finance activities is often inactive or unaligned with national strategies, creating missed opportunities for collaboration and impact. These shortcomings highlight the need for a more streamlined and coordinated approach to financial management within the climate finance landscape.

## 3.2.2 Opportunities

One way to adapt climate-sensitive budgeting is to **integrate climate change considerations into the PC-I Form**, this can ensure that public funds are allocated to projects that promote climate resilience, reduce greenhouse gas emissions, and contribute to sustainable development. Integration of Climate Change Considerations into PC-I Form was initiated by UNDP but it was never implemented. Line ministries will need to prioritize and plan for CC-sensitive development projects. The MoCC&EC is vital in technical and capacity development to promote climate-sensitive budgeting. It has the technical expertise to screen the CC sensitivity of proposed development expenditures submitted by the line ministries (in PC-I documents) before consideration by the selection committees. To integrate CC into planning, CC appraisal should be included in PC-Is so that the Planning and Development Board can consider this at the time of project approval. MoF at the federal and P&DD at the provincial in coordination with the Finance Department, should ensure that the MTBF of Climate change-relevant ministries/departments have CC-related outcomes. The Government can also consider including the Climate Change factor in the

38. Shah, S. A., Yousuf, I., Ahmad, B., Shahzad, T., Khan, I. H., Ayaz, S., & Sohail, M. (2023). Climate Investment Plan for Punjab, Sindh, Balochistan and Ministries of Energy, Water and Agriculture, Food Security & Research.

M&E formats, i.e., **PC-III–PC-V**. The development of a **guidebook for planning wings** could be used to train officials in filling out and appraising CC components in the PC-I–PC-V formats.

Another possible action towards Climate Change mainstreaming the **development of a handbook on public expenditure on climate change**. This includes Climate tracking through budget codes, Reviewing the budget call circular and integrating a climate checklist, and Giving weight to CC in the Priorities Committee.

The inter-provincial council, the Council of Common Interest (CCI) in Pakistan, focused on water and electricity, has untapped potential for climate action and crucial climate finance. To optimize impact, the CCI needs to explicitly include climate change and green finance, and microfinance in its mandate, enhance technical expertise, and establish a comprehensive national climate finance strategy. Inter-provincial collaboration, transparency, and accountability are key, along with leveraging international partnerships for additional finance and expertise. These adjustments can propel Pakistan towards a sustainable and climate-resilient future.

The Pakistan Climate Change Act (CCA) 2017, despite setting up institutions and increasing government machinery, requires updates to improve climate financing. The CCA's immunity clause, with its unclear definition of "good faith," poses a risk of legitimizing actions that constitute gross negligence, even when they result in substantial harm. This could potentially hinder climate action and undermine public trust in the government's commitment to addressing climate change. Policy implementation needs to be emphasized, with a focus on building regulatory strength within institutions. Political

will for funding the domestic climate change regime and collective pressure on stakeholders is crucial. Financial audits are necessary to prevent misappropriation of the CCA fund. While balancing the energy crisis with climate change policy is important, mitigation efforts like building small-scale structures are positive steps. Public pressure on the issue of climate change will be vital in sustaining the Act's effectiveness and enforcing its provisions.<sup>39</sup> The other guiding instrument and legislation is the Provincial Environmental Protection Act (PEPA), which can be updated to explicitly include climate change considerations, strengthen institutional capacity, promote green investments, enhance transparency and accountability, and foster regional and international cooperation. This will attract more investments and accelerate Pakistan's transition towards a low-carbon and climate-resilient future.

Further, NGOs are a significant provider of climate-related activities. Their contributions should be considered for a more comprehensive picture of climate finance investments in Pakistan (federal and provincial). Also, the uptake of using climate change as an indicator could be challenging, and initiating a policy debate and analytical research for the inclusion of CC as an indicator for fiscal transfer formulae under the NFC is required.<sup>40</sup>

### 3.3 Assessing the current budget and identifying investment gaps

To fulfill Pakistan's NDC commitments, an assessment of the currently allocated budgets and required funding for all the priority sectors is necessary to develop financing mechanisms for NDC Implementation. The Public Sector Development Programme (PSDP), Annual Development Programme (ADP), and NDC implementation Plans have

39. <https://sahsol.lums.edu.pk/node/12861>

40. <https://www.undp.org/pakistan/publications/climate-public-expenditure-institutional-review#>



been utilized for assessing the budget allocations for each province/region, sector-wise.<sup>41,42,43,44,45,46,47,48</sup> A summarized assessment of the allocated budget is given below (**Table 3**):

Table 3 – Financial Analysis - Summary								
Region/Province		Energy	Industry	Waste	Agriculture	LULUCF	Health	Total
Federal	Allocated Budget	151M	10M	0.16M	36M	33.5M	45M	<b>276M</b>
	Required Budget (Additional)	260M	25M	65M	35M	45M	40M	<b>470M</b>
Punjab	Allocated Budget	17.8M	44.5M	0.18M	0.18M	16M	75M	<b>153.6M</b>
	Required Budget (Additional)	205M	45M	50M	60M	50M	50M	<b>460M</b>
Sindh	Allocated Budget	25.4M	7.2M	12.5M	26.6M	5.3M	0.34M	<b>77.4M</b>
	Required Budget (Additional)	290M	35M	50M	55M	50M	40M	<b>520M</b>
AJK	Allocated Budget	8M	0.5M	0.21M	1.8M	1M	0.35M	<b>11.86M</b>
	Required Budget (Additional)	75M	20M	25M	40M	35M	25M	<b>220M</b>
GB	Allocated Budget	9M	-	0.15M	2.7M	0.62M	5M	<b>17.5M</b>
	Required Budget (Additional)	71M	-	25M	25M	30M	25M	<b>176M</b>
Balochistan	Allocated Budget	25M	-	62.4M	63.75M	5.5M	22.5M	<b>179.1M</b>
	Required Budget (Additional)	71M	-	25M	35M	40M	25M	<b>196M</b>
KPK	Allocated Budget	27.3M	14M	0.67M	37.8M	13M	82.8M	<b>176.6M</b>
	Required Budget (Additional)	120M	50M	35M	35M	40M	45M	<b>325M</b>

41. [https://www.pc.gov.pk/uploads/archives/PSDP\\_2022-23\\_Final.pdf](https://www.pc.gov.pk/uploads/archives/PSDP_2022-23_Final.pdf)

42. <https://pnd.punjab.gov.pk/system/files/ADP%202022-23.pdf#overlay-context=ADP202223>

43. <https://pnd.sindh.gov.pk/reports>

44. <https://www.pndajk.gov.pk/adp.php?filep=ADP/2022-23>

45. [https://portal.pnd.gog.pk/Content/Files/ADP/ADP%202022-23\\_220125109.pdf](https://portal.pnd.gog.pk/Content/Files/ADP/ADP%202022-23_220125109.pdf)

46. <https://www.finance.gob.pk/wp-content/uploads/2023/07/ABS-2023-24.pdf>

47. <https://pndkp.gov.pk/download/adp-2022-23/>

48. NDC Implementation Plans (2023)

### 3.3.1 Federal

In the Public Sector Development Program (PSDP) 2022-23, the Federal government has allocated USD 151.5M for the Power division. Further projects focusing on governance infrastructure, institutional capacity, and emission reduction projects within the Energy sector are planned to be implemented. These initiatives, implemented over seven years, require a total funding of USD 260M. Additionally, USD 10M is allocated for the industries and production division to prioritize NEQS implementation and achieve net-zero ambitions by 2030, with a financial provision of USD 25M. In the waste sector, USD 0.16M is allocated. Further, USD 65M is required for the 4R system and various waste reduction measures until 2030. The Food Security Division receives USD 36M for the agriculture sector. To implement Climate

Smart Agricultural practices, emphasizing GHG baseline establishment and interventions like smart irrigation, rainwater harvesting, and climate-resilient seeds, USD 35M is required. In the Climate Change Division, USD 33.5M is allocated to the LULUCF sector for the Green Pakistan Upscaling program. Further, afforestation and emission reduction programs over seven years require USD 45M in financial assistance. The National Health Services division is allocated USD 45M, and USD 40M is required for a Disaster Management Program and health service improvements over the next seven years. The total allocated budget for the federal government in PSDP 2022-23 is USD 276M<sup>49</sup>, while the total required budget per the implementation plan 2023 of the federal government for priority actions across all sectors amounts to USD 470M.

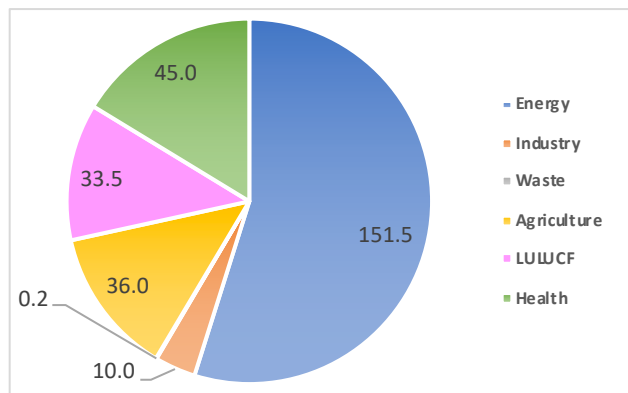


Figure 2: Federal Allocated Budget (Sector-Wise) Millions USD

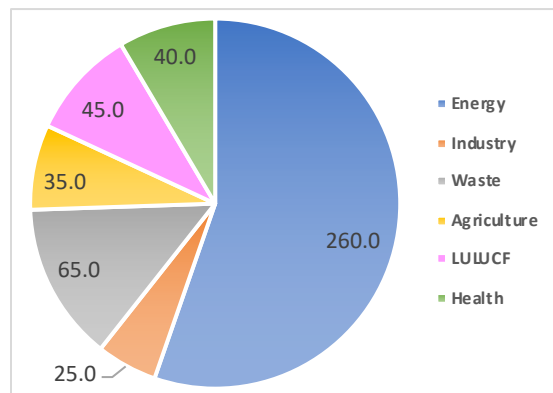


Figure 3: Federal Required Budget (Sector-Wise) Millions USD

49. [https://www.pc.gov.pk/uploads/archives/PSDP\\_2022-23\\_Final.pdf](https://www.pc.gov.pk/uploads/archives/PSDP_2022-23_Final.pdf)

### 3.3.2 Punjab

In the fiscal year 2022-23, Punjab's allocated budget from the Punjab ADP 2022-23 reflects a strategic approach across various sectors. The **energy sector** receives USD 17.8M in the Annual Development Plan (ADP), with an additional requirement of USD 205M for projects like private sector involvement, green building dissemination, energy labeling, awareness campaigns, green buildings, and an e-mobility program by 2023. The **industrial sector** received USD 44.5M, complemented by a USD 45M requirement for resource efficiency until 2030. USD 0.18M is allocated in the **waste sector**, with an additional USD 50M needed for a 4R waste

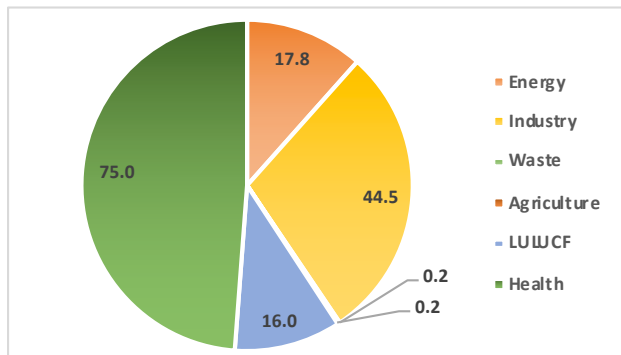


Figure 4: Punjab Allocated Budget (Sector-Wise) Millions USD

### 3.3.3 Sindh

In Sindh's annual development plan for 2022-23, the budget has been allocated to multiple sectors under Pakistan's NDCs. The required budget in Sindh's NDC Implementation Plan 2023 is compared.

For the **energy sector**, an allocation of USD 25.4M is specified in the ADP 2022-23, with projects over the next five years focusing on enhancing energy supply, addressing the energy-poverty nexus, and implementing third-party renewable energy systems, developing a hydrogen economy by 2030 requiring funding of 290M. Sindh has allocated USD 7.2M in the **industrial sector**,

management system. Given USD 0.18M, the agriculture sector envisions Climate Smart Agricultural practices with a total investment of USD 60M over seven years. The **LULUCF sector** is given USD 16M, with an extra USD 50M required for afforestation and emission reduction. The **disaster preparedness and health sector** received USD 75M, with USD 50M required for a comprehensive Disaster Management Program and advanced database systems over the next seven years. The total allocated budget for Punjab in ADP 2022-23 is **USD 153.66M<sup>50</sup>**, while the total required budget per the Implementation Plan 2023 of Punjab for priority actions across all sectors amounts to **USD 460M**.

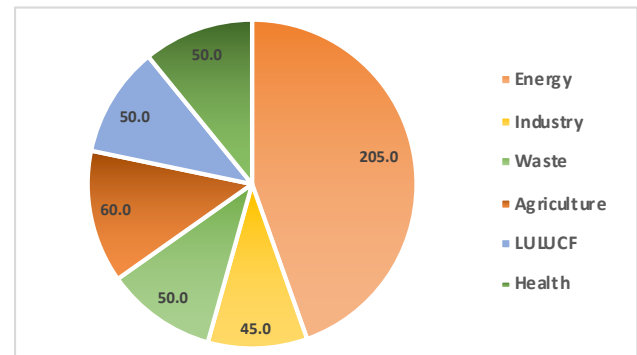


Figure 5: Punjab Required Budget (Sector-Wise) Millions USD

supplemented by USD 35M required, for a resource-efficient, cleaner production program until 2030. The **waste sector** receives USD 12.5M, with an additional USD 50M required for legislating and implementing a 4R waste management system through private sector involvement. In the **agriculture sector**, USD 26.6M is allocated for 2022-23 in Sindh's Annual Development Plan. Other funding for Climate Smart Agricultural practices over the next six years requires a total investment of USD 55M. The **LULUCF sector** was allocated USD 5.3M in the ADP, with an additional USD 50M required for afforestation programs and initiatives over the next seven years. The **disaster preparedness and health sector** are allocated

50. <https://pnd.punjab.gov.pk/system/files/ADP%202022-23.pdf#overlay-context=ADP202223>

USD 0.34M, with a comprehensive strategy for disaster preparedness, data collection, and health services improvement requiring USD 40M over the next seven years. The total allocated budget for Sindh in ADP 2022-

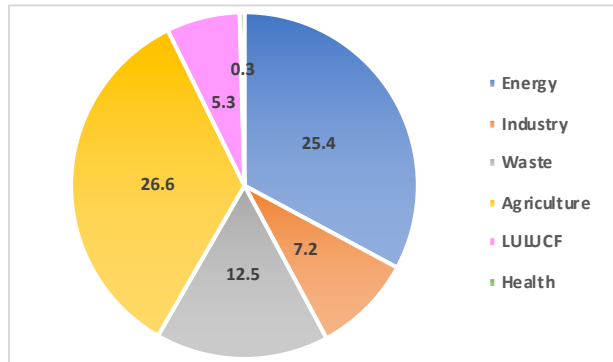


Figure 6: Sindh Allocated Budget (Sector-Wise) Millions USD

23 is **USD 77.4M<sup>51</sup>**, while the total funding needed per Sindh's Implementation Plan 2023 for priority actions across all sectors amounts to **USD 520M**.

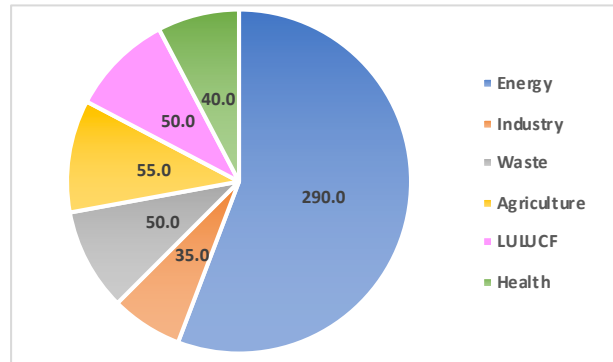


Figure 7: Sindh Required Budget (Sector-Wise) Millions USD

### 3.3.4 AJK

In the fiscal year 2022-23, Azad Jammu and Kashmir (AJK) will strategically allocate budgets to critical sectors. The **energy** sector receives USD 8M in the AJK ADP, with an additional USD 75M needed for green building dissemination and the adoption of an e-mobility program over seven years. The **industrial sector** is allocated USD 0.5M, with an extra USD 20M required for sustainable growth until 2030. The **waste sector** receives USD 0.21M, with USD 25M needed to legislate and implement a 4R waste management system. The **agriculture sector**

gets USD 1.8M, with an extra USD 40M required for climate-smart agricultural practices over seven years. The **LULUCF sector** receives USD 1M, with an additional USD 35M needed for afforestation and ecosystem restoration. The **disaster preparedness and health sector** received USD 0.35M, with an extra USD 25M required for improvement initiatives over seven years. The total allocated budget for AJK in ADP 2022-23 is **USD 11.86M<sup>52</sup>**, while the total funding needed per the Implementation Plan 2023 of AJK for priority actions across all sectors amounts to **USD 220M**.

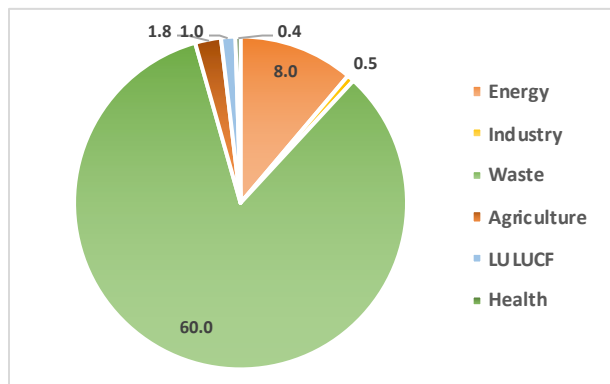


Figure 8: AJK Allocated Budget (Sector-Wise) Millions USD

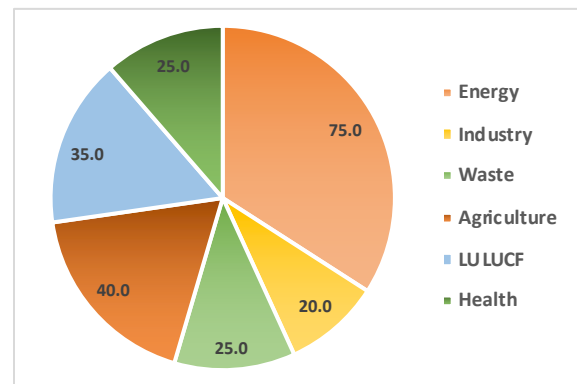


Figure 9: AJK Required Budget (Sector-Wise) Millions USD

51. <https://pnd.sindh.gov.pk/reports>

52. <https://www.pndajk.gov.pk/adp.php?filep=ADP/2022-23>

### 3.3.5 Gilgit-Baltistan

In the fiscal year 2022-23, Gilgit-Baltistan (GB) has allocated budgets strategically across crucial sectors to address developmental priorities. For the **energy sector**, USD 9M is given in the GB ADP 2022-23. Further renewable energy projects, private sector participation, green technologies, master plan addressing road infrastructure, mass transit, e-mobility programs, and green building dissemination over the next seven years require a total budget of USD 71M. In the **waste sector**, USD 0.15M is allocated, with an additional USD 25M required to enhance waste management infrastructure through awareness campaigns, capacity building, and improved waste management techniques within the next seven years. The **agriculture sector** received an

allocation of USD 2.7M, with an additional USD 25M required for implementing better agricultural practices, crop management, and utilization of renewable energy sources until 2030. The **LULUCF sector** is allocated USD 0.62M, with an additional USD 30M required for afforestation programs, biodiversity conservation, and REDD+ projects over the next seven years. The **disaster preparedness and health sector** were allocated USD 5M in 2022-23 ADP, focusing on disaster preparedness, early warning systems, and health services improvement initiatives requiring USD 25M over the next seven years. The total allocated budget for GB in 2022-23 is **USD 17.5M<sup>53</sup>**, while the total funding needed per the Implementation Plan 2023 of GB for priority actions across all sectors amounts to **USD 176M**.

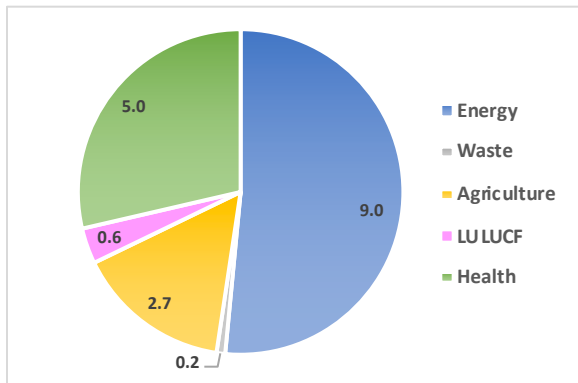


Figure 10: GB Allocated Budget (Sector-Wise) Millions USD

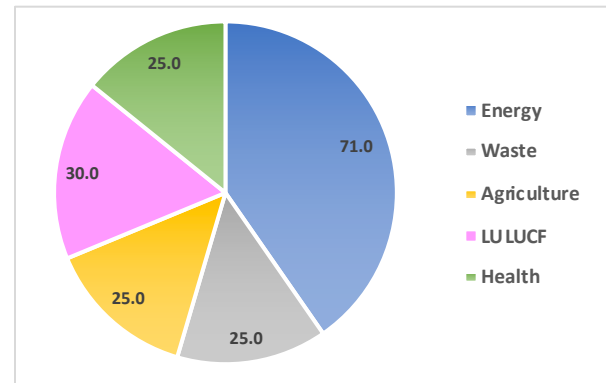


Figure 11: GB Required Budget (Sector-Wise) Millions USD

53. [https://portal.pnd.gov.pk/Content/Files/ADP/ADP%202022-23\\_220125109.pdf](https://portal.pnd.gov.pk/Content/Files/ADP/ADP%202022-23_220125109.pdf)

### 3.3.6 Balochistan

In the fiscal year 2022-23, Balochistan has strategically allocated budgets to tackle vital developmental challenges. With an allocated budget of USD 25 million, the **energy sector** will focus on renewable energy projects and green building dissemination, requiring a total funding of USD 71 million over seven years. The **waste sector** (specifically wastewater management) allocated USD 62.36 million, necessitating an additional USD 25 million for improved waste management infrastructure. In **agriculture**, USD 63.75 million is allocated for implementing Climate Smart Agricultural

practices, requiring an overall investment of USD 35 million.

The **LULUCF sector** allocated USD 5.5 million, which requires an additional USD 40 million for afforestation and biodiversity conservation. With a budget of USD 22.5 million, the **health and disaster preparedness** sector aims to enhance disaster preparedness and health services with an additional funding requirement of USD 25 million. The total allocated budget for Balochistan in 2022-23 is USD **179.11M**<sup>54</sup>, while the total required budget for priority actions across all sectors amounts to **USD 196M**.

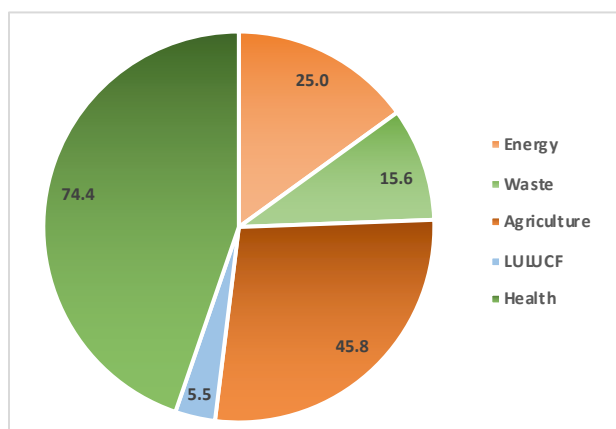


Figure 12: Balochistan Allocated Budget (Sector-Wise) Millions USD

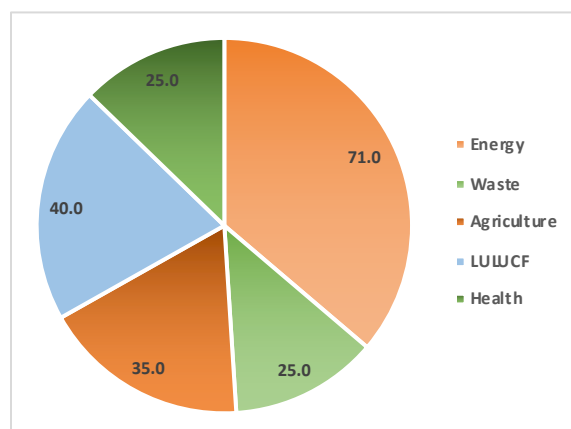


Figure 13: Balochistan Required Budget (Sector-Wise) Millions USD

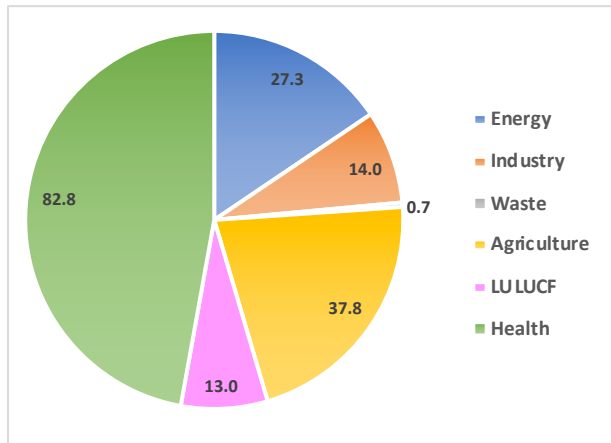
### 3.3.7 KPK

In the fiscal year 2022-23, Khyber Pakhtunkhwa (KPK) has allocated USD 27.3M for the **energy sector** in the KPK ADP. An additional USD 120M is required for green buildings, comprehensive transport management, and the development of the electric vehicle sector by 2023. The **industrial sector** receives USD 14M, supplemented by USD 50M for initiatives until 2030, including GHG inventory development and environmental standards. In the **waste sector**, USD 0.67M is allocated, with an additional USD 35M required for waste management practices by 2030. The **agriculture sector** receives USD

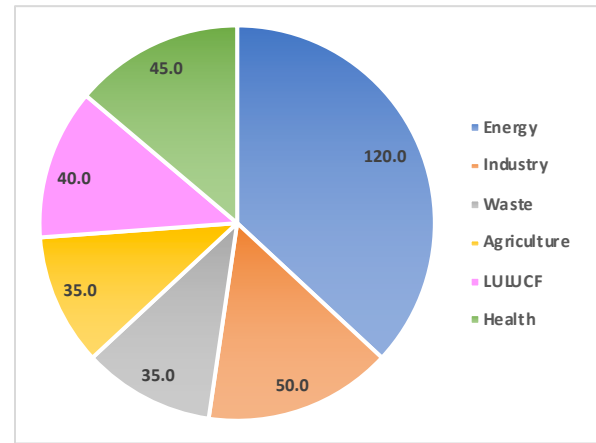
37.8M, focusing on climate resilience and water resource management, with a total required investment of USD 35M. The **LULUCF sector** is allocated USD 13M, with an additional USD 40M required for nature-based resource management by 2030. The **disaster preparedness and health sector** received USD 82.8M, focusing on early warning systems and rehabilitation, requiring USD 45M over the next seven years. The total allocated budget for KPK in ADP 2022-23 is **USD 175.6M**<sup>55</sup>, while the total funding needed per the Implementation Plan 2023 of KPK for priority actions across all sectors amounts to **USD 325M**.

54. <https://www.finance.gov.pk/wp-content/uploads/2023/07/ABS-2023-24.pdf>

55. <https://pndkp.gov.pk/download/adp-2022-23/>



**Figure 14: KPK Allocated Budget (Sector-Wise) Millions USD**



**Figure 15: KPK Required Budget (Sector-Wise) Millions USD**

In conclusion, the assessment of budget allocations for NDC implementation in Pakistan's provinces reveals a significant financial gap of **USD 2,367M** in addition to the allocated budget. While substantial funds have been allocated, there is a pressing need for strategic planning and innovative financing mechanisms to bridge the disparity between allocated budgets and the actual requirements. The sector-wise breakdowns emphasize the unique challenges faced by each province, underlining the importance of tailored approaches to address climate-related goals. Closing these investment gaps will require collaborative efforts, sustainable financing models, and a strong commitment to climate resilience across all sectors.

### 3.3.8 Allocation of Public Funding to Climate Relevant Projects (FY 2022-23)

The public funding for climate change-related projects in Pakistan for the fiscal year 2022-2023 reflects a diverse approach across different provinces. As shown in **Table 4** total of USD 141.896 million was provided through PSDP<sup>56</sup> and ADPs<sup>57</sup> to 268 climate-relevant projects in Pakistan. It should be noted that the public funding

provided in **Table 4** has been extracted from **Table 3** focusing on climate action projects. In these projects, both new and ongoing are considered and in the energy sector hydropower projects are also included.

Punjab allocated the highest amount of USD 49.219 million in 2022-23 towards climate financing. Punjab funded a total of 64 projects including both ongoing and new projects. Agriculture and Land Use, Land Use Change, and Forestry (LULUCF) sectors remained dominant and obtained 81.2% of the funding for such projects.

Sindh, with an allocated budget of USD 19.253 million contributed to 58 projects. In Sindh Agriculture had the largest share of the allocated budget in 2022-23 (USD 6.553 million) followed by energy (USD 6.226 million). The number of climate-relevant projects in Sindh's energy sector was more than the other sectors (27) followed by agriculture (19).

Khyber Pakhtunkhwa (KPK) provided USD 24.71 million for 49 projects prioritizing energy and agriculture sectors. Azad Jammu and Kashmir (AJK) allocated USD 4.892 million to direct efforts towards 25 projects and

56. Sourced from PSDP 2022-23

57. Sourced from provincial ADPs 2022-23

Gilgit-Baltistan (GB) allocated USD 6.194 million for 65 projects. Whereas in Balochistan only two climate-relevant projects were funded in the Energy and Waste sector with USD 0.25 million and USD 0.88 million public funding respectively.

KP's, AJK's, and GB's focus remained more on the energy sector where they provided a budget of USD 10.9 million for 24 projects, USD 2.45 million for 8 projects, and USD 5.38 million for 45 projects respectively. In the energy sector, most of the projects in these regions were related to hydropower.

Under PSDP, certain projects are being funded for implementation across the country irrespective of any specific region such as the Green Pakistan Upscaling Programme. Such projects are limited (5 projects) but the amount of funding is quite significant (USD 36.468 million).

Moreover, public funding was provided to 126 projects (USD 33.02 million) in the energy sector, which is more than any other sector. However, the amount of funding provided to the LULUCF sector exceeded the rest with USD 64.365 million for 64 projects (new and ongoing) which is 45.3% of the total public funding for climate-relevant projects.

Table 4 – Public Funding for Climate Relevant Projects in FY 2022-23								
Region/Province		Energy	Industry	Waste	Agriculture	LULUCF	Health	Total
Punjab	Allocated Budget	7	1.42	0.621	23.3	16.7	0.178	49.219
Punjab	No. of Projects	20	2	2	13	26	1	64
Sindh	Allocated Budget	6.226	0.355	0.89	6.553	5.175	0.05	19.253
Sindh	No. of Projects	27	2	2	19	7	1	58
AJK	Allocated Budget	2.45	0	0.213	0.296	1.401	0.532	4.892
AJK	No. of Projects	8	0	1	4	11	1	25
GB	Allocated Budget	5.38	0.035	0.142	0.468	0.169	0	6.194
GB	No. of Projects	45	2	2	8	8	0	65
Balochistan	Allocated Budget	0.25	0	0.88	0	0	0	1.13
Balochistan	No. of Projects	1	0	1	0	0	0	2
KPK	Allocated Budget	11	0	1.67	4.62	7.42	0	24.71
KPK	No. of Projects	24	0	6	8	11	0	49
Across the Country	Allocated Budget	0.71	0.199	0	2.089	33.5	0	36.498
Across the Country	No. of Projects	1	1	0	2	1	0	5
<b>Total</b>	<b>Allocated Budget</b>	<b>33.02</b>	<b>2.009</b>	<b>4.416</b>	<b>37.326</b>	<b>64.365</b>	<b>0.76</b>	<b>141.896</b>
<b>Total</b>	<b>No. of Projects</b>	<b>126</b>	<b>7</b>	<b>14</b>	<b>54</b>	<b>64</b>	<b>3</b>	<b>268</b>



### 3.3.9 Allocation of international Funding to Climate Relevant Projects (FY 2022-23)

The international climate funding for projects as per PSDP 2022-23 totals approximately USD 39.63 million. A significant portion of the funding is allocated to hydroelectric power projects that include expansion and rehabilitation of existing facilities such as Tarbela 5th Extension, Warsak, Golen Gol, and Tarbela 4th Extension. Additionally, investment in wind power projects such as evacuating power from Jhimpir and Gharo Wind Clusters highlights efforts for increasing renewable energy share. These projects are mostly funded by Multilateral Development Banks (MDBs) or government-to-

government (G2G) bilateral arrangements. In MDBs, the World Bank stands out as the largest contributor providing a total funding of USD 26.64 million whereas, the Asian Infrastructure Investment Bank (AIIB), French Agency for Development (AFD), and Asian Development Bank (ADB) made the significant contributions of USD 6.05 million, USD 3.20 million and USD 2.66 million respectively. Whereas Government-to-government (G2G) included funding of USD 0.36 million through USAID. Additionally, the OPEC Fund for International Development provided funding of USD 0.71 million, and the UNDP Adaptation Fund provided USD 0.92 million in FY 22-23.

Table 5 – International Climate Finance in FY 2022-23

Entity	Project	Funding	Source
Asian Development Bank (ADB)	Evacuation of Power from Suki Kinari, Kohala, Mahal HPPs (NTDC)	2.13	PSDP 2022-23
	Installation of Pilot Battery Energy Storage System (BESS) at 220kV Jhimpir G/Station (NTDC)	0.53	PSDP 2022-23
Asian Infrastructure Investment Bank (AIIB)	Tarbela 5 <sup>th</sup> Extension Hydro Power Project (1,410 MW)	6.05	PSDP 2022-23
French Agency for Development (AFD)	Chitral Hydel Power Station Capacity enhancement from 1 MW to 5 MW	0.18	PSDP 2022-23
	Dargai Hydroelectric Power Station Rehabilitation & Capacity Enhancement from 20 to 22 MW Dargai Malakand District KPK	0.25	PSDP 2022-23
	Harpoo HPP	0.04	PSDP 2022-23
	Keyal Khwar Hydropower Project (128 MW)	1.07	PSDP 2022-23
	Warsak Hydroelectric Power Station 2 <sup>nd</sup> Rehabilitation (242.96MW)	1.67	PSDP 2022-23
Global Environment Facility (GEF)*	Bananas in Pakistan's Bioeconomy: Transforming Waste into Textile	3.27	GEF- Projects & Operations-Recipient Countries
	Accelerating low-carbon circular economy through cleantech innovation towards sustainable development in Pakistan	1.78	GEF- Projects & Operations-Recipient Countries
	Combating Climate Change through the Promotion and Application of Sustainable Biomass Energy Technologies in Pakistan (PASBET)	3.44	GEF- Projects & Operations-Recipient Countries

Table 5 – International Climate Finance in FY 2022-23			
Entity	Project	Funding	Source
Green Climate Finance (GCF)**	Scaling-up of Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan	5.74	GCF Country Profile-Pakistan
OPEC Fund for International Development	Golen Gol Hydro Power Project (106 MW)	0.71	PSDP 2022-23
United Nations Development Programme (UNDP)	Enhance community, local, and national-level urban climate change resilience to water scarcity, caused by floods and droughts in Rawalpindi and Nowshera, Pakistan	0.92	Adaptation Fund
United States Agency for International Development (USAID)	Evacuation of power from wind power projects at Jhimpir and Gharo Wind Clusters (NTDC)	0.36	PSDP 2022-23
	Electricity Distribution Efficiency Improvement Project	8.17	PSDP 2022-23
	Evacuation of power from 2160- MW Dasu HPP Stage-I (NTDC)	5.33	PSDP 2022-23
	Dasu Hydropower Project (2,160 MW)	10.65	PSDP 2022-23
World Bank	Tarbela 4 <sup>th</sup> Extension Hydro Power Project (1,410 MW)	2.49	PSDP 2022-23
<b>Total</b>	<b>19 Projects</b>	<b>54.75</b>	

\* Only the projects approved for implementation in 2023 are considered

\*\* Only the share of funding provided in FY 2022-23 is considered

Moreover, the UNFCCC climate funding comprises two major streams, the Green Climate Fund (GCF) and the Global Environment Facility (GEF). Under GCF there are seven ongoing projects in Pakistan totaling USD 344.958 million. Notable GCF-funded projects include initiatives focusing on adaptation such as the Acumen Climate Action Pakistan Fund, Recharge Pakistan, Scaling-up of Glacial Lake Outburst Flood (GLOF) risk reduction, Transforming the Indus Basin with Climate Resilient Agriculture and Water Management and the Community Resilience Partnership Program. These projects enhance Pakistan's resilience to climate change impacts through interventions ranging from ecosystem-based adaptation to climate-resilient agriculture and water management. Additionally, GCF-funded mitigation projects include Pakistan Distributed Solar Project and the Green BRT Karachi promoting renewable energy

adoption and sustainable transportation as shown in **Table 6**. Similarly, GEF supports 17 ongoing climate action projects in Pakistan that amount to USD 51.664 million. Under GEF, projects approved for funding and in the implementation phase, such as Accelerating a low-carbon circular economy, combating land degradation, and Sustainable Energy Initiative for Industries receive a total funding of USD 36.51 million. Meanwhile, projects whose concept is proposed or approved like Sustainable and regenerative management of rice production and Bananas in Pakistan's Bioeconomy are allocated USD 15.155 million as shown in **Table 6**<sup>58</sup> below. Particularly in FY22-23 Global Environment Facility (GEF) provided USD 8.49 million for 3 projects and Green Climate Finance (GCF) provided USD 5.74 million for 1 project as shown in **Table 5**.

58. Sourced from the official GCF website.

Table 6 – UNFCCC Climate Finance Projects in Pakistan			
Entity	Title	Status	Total Financing (USD million)
Green Climate Fund (GCF)	Acumen Climate Action Pakistan Fund	Approved	28
	Recharge Pakistan	Approved	66
	Scaling-up of Glacial Lake Outburst Flood (GLOF) risk reduction	Under implementation	36.96
	Transforming the Indus Basin with Climate Resilient Agriculture	Under implementation	34.998
	Community Resilience Partnership Program	Approved	120
	Pakistan Distributed Solar Project	Under implementation	10
	Green BRT Karachi	Under implementation	49
Global Environment Facility (GEF)	Sustainable and regenerative management of rice production	Concept Approved	6.895
	Bananas in Pakistan's Bioeconomy	Concept Approved	3.272
	Development of National Action Plan for Artisanal and Small-Scale Gold Mining	Project Approved	0.5
	Accelerating low-carbon circular economy through cleantech innovation	Project Approved	1.776
	Combating Climate Change through Sustainable Biomass Energy Technologies	Project Approved	3.439
	Combating land degradation through integrated range and livestock management	Project Approved	2.183
	Strengthening Governance and Capacity for Combatting Illegal Wildlife Trade	Concept Proposed	2.65
	Strengthening Community-managed Protected Areas	Concept Approved	2.338
	Transforming the Leather Processing Industries	Project Approved	2
	Reversing Deforestation and Degradation in Chilgoza Pine Forests	Project Approved	3.978
	Snow Leopard and Ecosystem Protection Program	Project Approved	4.644
	Delivering the Transition to Energy-Efficient Lighting	Project Approved	1.576
	Mainstreaming Climate Change Adaptation through Water Resource Management	Project Approved	3.31
	Sustainable Forest Management in High Conservation Value Forests	Project Approved	8.338
	Support for Revision of NBSAPs and Development of Fifth National Report to the CBD	Project Approved	0.22
	Generating Global Environmental Benefits from Improved Decision-Making Systems	Project Approved	0.995
	Sustainable Energy Initiative for Industries	Project Approved	3.55
<b>Total</b>	-	<b>24 Projects</b>	<b>396.622</b>

Although multiple climate projects have received international climate finance, Pakistan has not yet succeeded in accessing international climate finance at scale. Utilization of UNFCCC funding and major bilateral climate funds has remained limited. In MDBs, the World Bank has remained the main source, but still, more efforts are required to successfully tap international climate finance to combat the hazardous impacts of climate change.

### 3.4 Assessing Funding Options

#### 3.4.1 Diversifying Domestic Finance

Domestic finance involves the Domestic Public and Private Finance of Pakistan, and the following funding options have been identified to diversify the funds.

##### 3.4.1.1 Domestic Public Finance

Aligning public finance budgets is instrumental in mobilizing resources efficiently. It can be ensured by coordinating government financial plans with broader economic and development goals. Through this strategic allocation, the government can efficiently use available funds and direct resources to initiatives that align with the development agenda. Moreover, the process encourages public-private partnerships by creating an environment conducive to collaboration, making projects more attractive to private investors. In addition, effective budget alignment also enables resource leveraging, allowing governments to attract grants, loans, and private-sector investments. The inclusion of monitoring and evaluation mechanisms ensures accountability and transparency boosting stakeholder confidence and for further resource mobilization.

Therefore, innovative funding options within domestic public finance, from concessional funding for banks to bolstering credit guarantee companies should be explored. These strategies aim to enhance the viability of climate-focused projects.

##### 3.4.1.2 Capitalizing Credit Guarantee Companies

Efforts to address the low capitalization of credit guarantee companies and schemes are crucial for supporting green technology across all six sectors focused on the NDC Commitments of Pakistan. By providing concessional funding and unlocking commercial private capital, these companies can expand their capacity and offer more credit guarantees for climate-friendly initiatives.<sup>59</sup>

##### 3.4.1.3 Disaster Financing Ecosystem

Establishing a resilient disaster financing ecosystem in Pakistan requires a comprehensive approach encompassing sustainable financing mechanisms, climate risk transfer strategies, and effective disbursement channels. To achieve this, Pakistan can pursue a multifaceted funding strategy that includes establishing a sector-focused blended finance fund, collecting donations from local (**Public Sector Development Program and Annual Development Program**) and international donors, defining a disbursement approach, leveraging local and international grants, collecting direct insurance premiums, engaging global re-insurers for partial risk transfer, providing re-insurance coverage for local insurers, tapping into global capital markets through the issuance of Catastrophe (CAT) bonds, utilizing insurance levies, expanding disbursement channels to include banks and other intermediaries, employing innovative approaches such as bundling insurance coverage with loans and credit initiatives, and allocating government funds. Pakistan can mitigate the financial impact of climate disasters by effectively implementing these funding options and disbursement strategies.

Pakistan should aim to develop a well-defined strategy to act as the basis for the **disaster risk financing mechanism** and approach.<sup>60</sup> This strategy should inform the mandate and guiding principles of any disaster fund. Typically, the four main components of such a strategy are:

59. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

60. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

1. **Climate modeling:** Developing and maintaining a robust climate model, whether in-house or externally sourced, that can act as the basis for strategic decision-making and risk assessment about climate disasters (e.g., defining the scope of coverage, defining the most critical disaster types, estimating frequency and severity of disasters by region, etc.).
2. **Financing channels:** Creating sustainable financing channels for the national disaster risk management fund/entity and the key guidelines that need to be in place to inspire confidence among relevant capital markets investors and reinsurers (e.g., committed ringfenced financing, donations, etc.).
3. **Disbursement & claims management:** Defining the ideal approach to disbursement during relief, recovery, and reconstruction phases following any given disaster, respectively, and ensuring financing is directed appropriately to mitigate economic, physical, and humanitarian losses.
4. **Capital & risk management:** Developing the ideal fund structure and relevant risk transfer and investment instruments concerning cost, complexity, and liquidity, ensuring an appropriate balance of liquidity and value of risk coverage across the relief, recovery, and reconstruction phases.<sup>61</sup>

#### 3.4.1.4 Developing a Green Taxonomy

To green the financial sector, Pakistan can develop a robust green taxonomy. This classification system will identify activities, assets, and project categories aligning with climate, green, social, or sustainable objectives. This taxonomy supports the development of a green finance market and informs policies, regulations, and structured approaches for banks and asset managers.<sup>62</sup>

#### 3.4.1.5 Domestic Private Finance

In Pakistan, the involvement of the private sector climate investment in partnership with the government is relatively limited.<sup>63</sup> However, some companies engage in relevant climate change and environmental conservation projects to comply with global regulations or voluntary commitments as well as to keep their reputations in global markets where the product is exported, and the emphasis on reducing climate impacts is paramount, or international companies with net-zero commitments. More private sector companies are now aware of the need to invest in decarbonizing their operations and are committing to net zero pledges. Further, under their ESG portfolio, these companies are also investing in climate resilience and environmental conservation initiatives.

For example, Fauji Cement Company (FFCL) has implemented various measures to control emissions. FCCL has invested in renewable energy, specifically solar power plants. The company has planned to install additional solar power plants at its Wah and Nizampur facilities, which will increase its capacity to 40.1 MW and generate 60,180 MWH/year, resulting in a reduction of approximately 31,522 tons of CO<sub>2</sub> annually. Besides, FCCL has implemented Waste Heat Recovery Power Plants (WHRPPs) with a total installed capacity of 40.5 MW that will reduce emissions by 79,351 tons of CO<sub>2</sub>e per year. The company has also achieved a 5% reduction of fossil fuel with alternate fuel during FY 21-22, resulting in an 8,028 tons CO<sub>2</sub>e reduction. FCCL is actively involved in environmental initiatives, such as planting over 100,000 trees, distributing more than 150,000 plants, and encouraging tree plantation in local villages and government institutions to reduce 6,000 tons of CO<sub>2</sub>e per year.<sup>64</sup> Lucky Cement is investing in green

61. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

62. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

63. <https://cdkn.org/story/feature-pakistan-businesses-have-great-opportunities-for-climate-finance>

64. <https://profit.pakistantoday.com.pk/2022/06/17/fauji-cement-substantially-reduces-emissions-of-co2/>

power projects to decrease its reliance on imported fuel. The company is launching three new renewable projects with a total power generation capacity of 37.6 MW. These investments represent a commitment of PKR 11 billion (\$39 million) and are expected to be completed by FY23-24.<sup>65</sup>

Moreover, Nestlé Pakistan has allocated PKR 2 billion for investments in biomass boilers and additional solar power plants across its manufacturing sites that are aligned with its 2050 Net Zero commitments. This effort aims to reduce GHG emissions and align with the Pakistan government's UN climate change pledge. Likewise, the Coca-Cola Foundation is contributing Recharge Pakistan Project along with the Green Climate Fund, the United States Agency for International Development, and the World Wildlife Fund (\$77.8 million).<sup>66,67</sup>

Unilever Pakistan has partnered with K-Solar to transition its operations in Rahim Yar Khan and Karachi to solar energy as part of its target of net-zero emissions by 2039. This initiative is expected to save Unilever close to PKR 84 million annually in energy costs, contributing approximately 2.3 million kWh through renewable sources.<sup>68</sup>

However, the government's role in mobilizing the private sector in climate investment is quite limited and there is a need to discover opportunities in domestic private finance, including foreign currency-denominated green bond facilities and leveraging carbon markets. These initiatives will attract private investment for sustainable and climate-friendly projects. In Pakistan, an example of the Delta Blue Carbon project in Sindh<sup>69</sup>, a carbon market project operating under a public-private partnership, is testimony to the fact that similar partnerships can

be made possible through advocacy and enhanced coordination.

#### 3.4.1.6 Green Bond Facilities

Addressing the need for foreign currency-denominated Green Bonds, Catastrophe Bonds, Resilience Bonds, Climate Bonds, Social Bonds, Sustainability Bonds, and Blue bonds facilities, Pakistan can collaborate with multilateral agencies like the International Finance Corporation (IFC). Successful issuance requires addressing prerequisites such as capital market infrastructure and a favorable investment climate.<sup>70</sup>

#### 3.4.1.7 Leveraging Carbon Markets for Private Finance

The opportunity within the carbon market is available under the Kyoto Protocol. Pakistan has actively participated through its involvement in Clean Development Mechanism (CDM) initiatives. Currently, Pakistan has a new opportunity under Article 6 of the Kyoto Protocol for the Voluntary Carbon Market (VCM). Pakistan has initiated work on VCM and is focusing on defining guidelines and assessing domestic potential. Following this approach, Pakistan is focusing on formulation of policies for VCM, and clearly defining the sectors eligible for participation. By working on both the VCM guidelines and policy, Pakistan is contributing significantly to global climate change goals and is also harnessing economic potential. Equal emphasis has been given to the carbon market as a mitigation action. In 2022, a five-year SPAR6C began, supported by UNEP Copenhagen Climate Center, GFA Consulting Group GmbH, Kommunalkredit Public Consulting, and Carbon Limits AS. The initiative seeks to enhance the

65. <https://www.cemnet.com/News/story/175571/lucky-cement-announces-three-new-green-power-projects.html>

66. <https://www.nestle.pk/media/pressreleases/allpressreleases/nestle-powers-renewabl-energy-investment-in-pakistan>

67. <https://www.worldwildlife.org/press-releases/recharge-pakistan-project-receives-77-8-million-funding-boost-from-the-green-climate-fund-united-states-agency-for-international-development-the-coca-cola-foundation-and-world-wildlife-fund>

68. <https://www.unilever.pk/news/press-releases/2023/unilever-pakistan-champions-renewable-energy-relieving-national-grid-with-approx-23-million-kwh-annual-production/>

69. <https://deltabluecarbon.com>

70. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

readiness of Colombia, Pakistan, Thailand, and Zambia to participate in global carbon markets under Article 6. The project focuses on improving policy and regulatory frameworks, fostering private sector participation, and involving a diverse array of local stakeholders to establish a conducive environment for carbon trading.

Through these ongoing projects, Pakistan can tap into global carbon markets, utilizing voluntary emissions trading schemes to unlock private finance through carbon credits. With abundant natural resources, Pakistan has significant potential for private sector participation, as demonstrated by the Government of Sindh's successful carbon credits initiative for mangrove forests.

#### 3.4.1.8 Green Investor Forum

The Green Investor Forum can play an important role in channeling private finance towards sustainable initiatives. It can work as a marketplace where investors, project developers, and policymakers converge. Meanwhile, networking opportunities foster collaboration and spark co-investment possibilities. This initiative can also attract international developers, and green hydrogen investors can proactively seek political risk guarantees from the Multilateral Investment Guarantee Agency (MIGA).<sup>71</sup> The forum advocates for policy changes that make green investments more attractive, like carbon pricing mechanisms or tax breaks. Through this multi-pronged approach, the Green Investor Forum can act as a bridge, connecting investors with investable opportunities, raising awareness, and ultimately, accelerating the flow of private capital towards a more sustainable future.<sup>72</sup>

### 3.4.2 Mobilizing International Finance

Multilateral banks, development organizations,

and carbon markets are a crucial part of mobilizing international finance in Pakistan.

#### 3.4.2.1 Article 6 (Carbon Markets) for International Finance

Article 6 of the Paris Agreement offers Pakistan a unique pathway to accelerate its climate action journey. This international mechanism enhances cross-border collaboration and innovative financing solutions, unlocking doors to private sector expertise, capital, and cutting-edge technology. Through mechanisms like “internationally transferred mitigation outcomes” (ITMOs), Pakistan can access private investments and carbon credits by partnering with developed countries and private entities on clean energy projects, like solar farms in Sindh or regional wind grids. This collaboration also fosters R&D in climate-resilient solutions tailored to Pakistan's specific needs. However, effectively harnessing this potential requires robust accounting systems, transparent governance, and capacity building in areas like ITMO trading. By actively engaging with international partners and investing in these crucial areas, Pakistan can leverage Article 6 to propel its low-carbon transition and unlock a brighter, more sustainable future for its people.<sup>73</sup>

#### 3.4.2.2 Development Organizations and Multilateral Banks

Collaborating with development organizations and multilateral banks, such as the World Bank, USAID, KOICA, GEC, EU, GCF, KfW Development Bank, Asian Development Bank, and Islamic Development Bank, can offer substantial financial support.<sup>74</sup> These institutions can provide expertise, concessional financing, and political risk guarantees for capital-intensive climate projects.

71. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

72. [https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120\\_Accelerating\\_Green\\_Climate\\_Financing\\_Report\\_vFinal-003.pdf](https://growthgateway.campaign.gov.uk/wp-content/uploads/sites/138/2023/11/231120_Accelerating_Green_Climate_Financing_Report_vFinal-003.pdf)

73. <https://www.worldbank.org/en/news/feature/2022/05/17/what-you-need-to-know-about-article-6-of-the-paris-agreement>

74. Shah, S. A., Yousuf, I., Ahmad, B., Shahzad, T., Khan, I. H., Ayaz, S., & Sohail, M. (2023). Climate Investment Plan for Punjab, Sindh, Balochistan and Ministries of Energy, Water and Agriculture, Food Security & Research.

As of June 2023, the Total Public Debt and Liabilities of Pakistan is estimated to be about Rs. 2.978 trillion/ US\$1.0 billion which is 0.3 percent of the gross domestic product (GDP) of Pakistan.<sup>75</sup> These institutions can aid in innovative solutions like debt-for-nature swaps, where a portion of Pakistan's external debt is forgiven in exchange for commitments to environmental conservation efforts. Concessional financing directly to banks can support high-priority energy ventures, replacing the funding previously provided by the State Bank of Pakistan (SBP).<sup>76</sup>

#### 3.4.2.3 Capacity building for International Finance Mobilization

Capacity constraint is a significant hurdle in international finance mobilization. Many professionals in ministries and government organizations still use outdated management approaches and require advanced training in data analytics, databases, project management, and climate finance. Lack of capacity greatly impacts securing foreign investment, which comes with a stringent set of criteria, many of which are compulsory to finalizing contracts. The current workforce is not adequately trained to respond to these criteria, many of which are innovative market trends; hence, they cannot develop a bankable and attractive proposal. Funds should be allocated for capacity-building and capacity-building through implementation should be encouraged. A detailed exercise should be carried out to build capacities on the various forms of finance available and the application process and to ensure the process is sustainable so that once the donor agency exists, the process doesn't end there.

#### 3.4.2.4 National Financing Loans, Development Sector Funding, and Bilateral Government Funding

Pakistan is currently grappling with multiple issues that are impeding its ability to secure international loans. Pakistan lacks adequate climate resilience due to which it is susceptible to environmental challenges. In addition,

economic instability is a significant concern reducing confidence among donors about the country's ability to effectively manage and repay loans. The aftermath impacts of the COVID-19 pandemic and devastating floods further enhance the economic challenges. Political instability remains a persistent issue due to changes in governance, and the confidence of international financial institutions is affected.

Moreover, to address these challenges, a comprehensive strategy is required. Economic stabilization measures, including fiscal reforms and transparent financial management, are crucial to implement. Furthermore, recognizing the imperative of decarbonization, a just transition should be implemented to ensure that environmental sustainability does not compromise economic stability.

Pakistan is also facing challenges in securing development sector or bilateral government funding. Coordination issues within the government create delays and obstacles in project implementation. Administrative hurdles related to signing agreements and executing projects further contribute to reduced progress. Political instability due to frequent changes in government causes uncertainty that reduces the confidence of investors.

To address these challenges a multi-stakeholder forum involving experts, investors, and developers should be established. This forum can serve as a platform to streamline coordination efforts, bringing together various government departments, agencies, and stakeholders to ensure smoother project implementation.

#### 3.4.3 Establish Effective Governance to Streamline Cooperation Within THE GoP and with External Parties

To address Pakistan's fragmented climate policies, effective coordination is required vertically (national and subnational governments) and horizontally (between line ministries). For improvement, Pakistan can use

75. [https://www.sbp.org.pk/reports/stat\\_reviews/Bulletin/2023/Apr/DomesticExternalDebt.pdf](https://www.sbp.org.pk/reports/stat_reviews/Bulletin/2023/Apr/DomesticExternalDebt.pdf)

76. Shah, S. A., Yousuf, I., Ahmad, B., Shahzad, T., Khan, I. H., Ayaz, S., & Sohail, M. (2023). Climate Investment Plan for Punjab, Sindh, Balochistan and Ministries of Energy, Water and Agriculture, Food Security & Research.



international case studies. For instance, South Africa has three main fora for vertical and horizontal inter-ministerial and provincial level coordination. The Inter-Ministerial Committee on Climate Change (IMCCC) is an Executive-level committee chaired by the Minister responsible for the environment portfolio. The Intergovernmental Committee on Climate Change (IGCCC) brings together line ministries and government representatives from provincial and local governments, fulfilling horizontal and vertical functions. The Forum of South African Directors General (FOSAD) brings together Heads of Departments and Directors General from each line ministry to enhance policy alignment, monitor implementation, and provide technical support.

Pakistan is committed to a greener future and seeks diverse funding, both domestically and internationally.

This involves strengthening public finances and exploring private capital through tools like credit guarantees, resilient infrastructure, Green Bonds, Catastrophe Bonds, Climate Bonds, Social Bonds, Sustainability bonds, Blue bonds, and Carbon markets. Collaboration with international partners, especially multilateral organizations, is crucial. Leveraging mechanisms like Article 6 can provide vital support and technology transfer. Empowering communities, streamlining procedures, and building capacity are key to maximizing the impact of international finance. Urgent action is needed to unlock the full potential of Pakistan’s green future, ensuring sustainability and prosperity for all.

The following (Figure 16) shows the relation of the funding options to public, private, and international Finance.

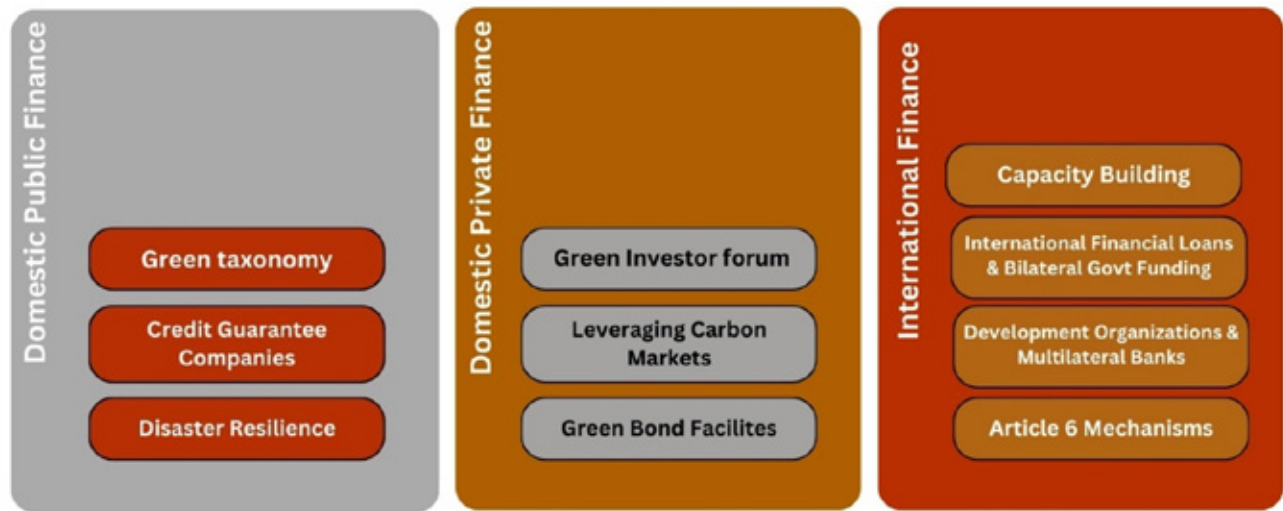


Figure 16 - Funding Options for Public, Private, and International Finance<sup>77</sup>

77. Prepared by Author



# NDC INVESTMENT PLAN/STRATEGY

## 4.1 Vision and scope of the plan

**Vision:** A Climate-resilient Pakistan, backed by clean energy and thriving on sustainable agriculture, responsible resource management, robust disaster preparedness, and healthy ecosystems, where technological advancements and equitable access to resources ensure prosperity and well-being for all.

**Scope:** This NDC Investment Plan outlines actionable steps based on existing Priority Actions (PAs), identified barriers, and available funding options across six sectors: energy, industry, agriculture, waste management, land use, land-use change, and forestry (LULUCF), and disaster preparedness and health. The plan details specific actions, their timelines, and lead agencies responsible for their implementation.

## 4.2 Priority Actions/Strategy

In addressing the challenges within the energy, industry, agriculture, LULUCF, health, and waste sectors, it's crucial to reinforce regulatory frameworks and institutions. This ensures transparent oversight and governance, laying the foundation for effective climate finance utilization. Strategic investments in grid upgrades and storage facilities are necessary for the energy sector to accommodate renewable energy, fostering a shift toward sustainable sources. Simultaneously, the industry sector should emphasize cleaner production methods, emissions control, and public disclosure of emissions. Waste management, guided by the 4R concept, requires legislative support and collaboration with the private sector for effective implementation.

Turning to agriculture and land use, land-use change, and forestry (LULUCF), these sectors are pivotal in Pakistan's

climate resilience. Policies promoting climate-resilient seeds, efficient irrigation, and adopting renewable energy in agriculture are essential. A dedicated climate-smart agriculture program should be established, emphasizing research and development for improved irrigation and solarization of tube wells. In the forestry sector, an afforestation program with robust monitoring systems, emissions reduction initiatives for voluntary carbon markets, and the promotion of a blue carbon economy can contribute significantly to climate goals.

In the disaster and health sectors, robust infrastructure and strategic planning are imperative. Establishing reliable data collection systems and central databases and engaging the private sector through public-private partnerships are critical for disaster preparedness. Cross-sectoral governance and coordination are essential, focusing on integrating climate considerations into budgeting at all levels, developing guidebooks for informed decision-making, and establishing a comprehensive legal framework for climate change. Collectively, these measures create a foundation for sustainable development and resilience, aligning with Pakistan's NDC priorities. The [\(ANNEX-II\)](#) contains Key Actions, the lead agencies, and the timeframe through which Pakistan can address the gaps in all six sectors under the banner of NDC commitments in Pakistan, while also ensuring gender and youth inclusion in important decisions.

The following **(Table 4)** contains the Priority Actions that need to be implemented immediately to fulfill the NDC commitments of Pakistan. Without implementing them, actions in Annex II cannot be implemented effectively.

Table 7: Priority Actions			
Need	Mechanism	Action	Responsible Agency
The impact of the 18th Amendment on provincial powers, role diversity, and decision-making in Pakistan highlights the need to institutionalize the implementation of the Plan (Section 3.2). There is a necessity for a clear delineation of roles and responsibilities at both federal and provincial levels, coupled with streamlined decision-making processes, to facilitate coordinated and effective climate action. The establishment of an institutional framework is crucial for fostering ownership, gaining public-private support, and ensuring the efficient delivery of projects, all of which contribute to realizing Pakistan's NDC ambitions.	Institutionalize Plan Implementation	<ul style="list-style-type: none"> <li>Establish the Climate Change Authority as the central body responsible for overseeing NDC implementation.</li> <li>Assign clear roles and responsibilities for monitoring and evaluation to relevant ministries (MOCC&amp;EC, MOF, etc.), private sector entities, and civil society organizations.</li> <li>Foster regular communication and collaboration between stakeholders to share information, best practices, and lessons learned.</li> <li>Enhance the number of accredited bodies for climate funding.</li> <li>Improve the coordination across the ministries and departments.</li> </ul>	Government of Pakistan Ministry of Climate Change & Environmental Coordination
Challenges persist in Pakistan due to the lack of clarity and transparency surrounding "green" investments, hindering effective resource allocation in the sector. The absence of standardized definitions and a common language for green finance limits communication and collaboration among stakeholders exacerbating the issue. Moreover, the inadequate understanding of green investment opportunities discourages financial institutions and investors from engaging in environmentally sustainable initiatives, creating barriers to progress in the sector. To overcome these challenges and optimize resource allocation, a comprehensive financial mechanism is needed to provide clarity, standardization, and enhanced understanding of the green finance landscape in Pakistan (Section 3)	Green Taxonomy Development	<ul style="list-style-type: none"> <li>Define clear criteria for classifying economic activities as environmentally sustainable based on international standards and Pakistan's specific context.</li> <li>Establish a transparent and accessible system for assessing and certifying projects against the green taxonomy.</li> <li>Utilize the green taxonomy to guide public and private investment decisions towards sustainable, NDC-aligned projects.</li> <li>Promote awareness and understanding of the green taxonomy among investors, businesses, and policymakers through guidebooks or training materials.</li> </ul>	Ministry of Climate Change & Environmental Coordination Ministry of Finance Private Sector Stakeholders
Gender disparities <sup>78</sup> and limited youth engagement <sup>79</sup> hinder the realization of a fully inclusive and dynamic workforce. The absence of targeted policies exacerbates these challenges, leaving gaps in addressing the unique needs and perspectives of both women and youth. Establishing a policy framework for gender and youth inclusion becomes crucial to systematically address these challenges, ensuring equitable participation, fostering diversity, and unlocking the full potential of the workforce.	Policy Framework for Gender & Youth Inclusion	<ul style="list-style-type: none"> <li>Create a Policy framework for integrating Gender and youth in Climate Sensitive Decision-Making.</li> <li>Ensure Gender &amp; Youth Sensitive Climate Budgeting.</li> <li>Integrate Gender Studies in Curriculum at all levels of Education.</li> </ul>	Ministry of Climate Change & Environmental Coordination Youth Affairs & Sports Department National Commission on the Status of Women

78. <http://irs.org.pk/Spotlight/SP10012023.pdf>79. <https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/empowering-pakistans-youth-to-address-climate-change-risks/>

Table 7: Priority Actions

Need	Mechanism	Action	Responsible Agency
There exists a major lack of capacity and awareness of climate considerations among government officials involved in the budgeting process (Section 3). Providing training to the officials involved can help them improve budgeting decisions.	Guidebook Development for Project Forms and Climate Sensitive Budgeting	<ul style="list-style-type: none"> <li>Develop a guidebook for planning wings to train officials in filling out and appraising Climate Change components in the PC-I–PC-V formats for emissions projects for multiple sectors.</li> <li>Develop comprehensive greening and climate-sensitive guidelines and training materials for government officials involved in budgeting processes, for better decision-making while planning budgets of multiple Sectors (Energy, Industry, Waste, Agriculture, Forestry, Health)</li> </ul>	<p>Ministry of Planning, Development, and Special Initiatives</p> <p>Ministry of Climate Change &amp; Environmental Coordination</p> <p>Ministry of Finance</p>
Pakistan's ambitious climate goals require substantial funding beyond traditional sources. Green bonds offer a promising solution to attract private capital, but their effectiveness hinges on clear guidelines (Section 3.4.3). Currently, a lack of standardized definitions for "green" investments creates ambiguity and discourages investors. Green bond guidelines, aligned with international best practices, will establish clear criteria for project eligibility, ensuring investor confidence and unlocking private capital. This, in turn, will facilitate the flow of funds towards demonstrably impactful climate-friendly projects, accelerating Pakistan's transition to a sustainable future.	Guideline Development for Utilizing Green Investment Bond/ Tools	<ul style="list-style-type: none"> <li>Convene a working group with representatives from MoF, SECP, MoCC&amp;EC, State Bank of Pakistan (SBP), Pakistan Environmental Protection Agency (PEPA), and green finance experts.</li> <li>Conduct a comprehensive review of existing international green bond standards like the International Capital Market Association (ICMA) Green Bond Principles and Climate Bonds Initiative (CBI) standards.</li> <li>Align international standards with Pakistan's NDCs and regulatory frameworks for green bond issuance.</li> <li>Define clear eligibility criteria for green projects, specifying types and establishing impact measurement methodologies.</li> </ul>	<p>Ministry of Climate Change &amp; Environmental Coordination (MoCC&amp;EC)</p> <p>Ministry of Planning, Development, and Special Initiatives (MoPDSI)</p>
MRV (Measurement, Reporting, and Verification) enhances plan effectiveness by fostering transparency and accountability through systematic progress measurement, promoting improved decision-making with crucial performance data, and driving continuous learning and innovation. It functions as a dynamic feedback loop, ensuring the plan evolves optimally toward its goals (Section 2.3). Continuous monitoring and evaluation of the Plan is necessary to ensure that the planned activities are being implemented, and to what extent.	MRV Framework Establishment	<ul style="list-style-type: none"> <li>Define key performance indicators (KPIs) to track progress towards NDC targets in each relevant sector.</li> <li>Develop robust data collection and monitoring systems to gather information on NDC implementation indicators.</li> <li>Establish data management and reporting protocols to ensure transparency and accountability for NDC progress.</li> <li>Develop a tracking system for financial inflows and outflows.</li> <li>Conduct regular evaluations of the NDC Implementation Plan, identifying successes, challenges, and opportunities for improvement.</li> </ul>	<p>Ministry of Climate Change &amp; Environmental Coordination</p> <p>Ministry of Planning, Development, and Special Initiatives</p>

Table 7: Priority Actions			
Need	Mechanism	Action	Responsible Agency
Incomplete or unreliable data poses a significant challenge, hindering accurate measurement and monitoring of emissions (Section 3.2.1.1). Additionally, limited awareness and understanding of the importance of GHG inventories contribute to a lack of commitment and coordination across these sectors. The absence of standardized methodologies and monitoring frameworks further complicates efforts to establish consistent inventories. Overcoming these challenges is crucial, as GHG emission inventories are essential tools for formulating effective climate strategies, guiding policy decisions, and tracking progress toward emission reduction goals in multiple sectors.	Establish GHG Inventories	<ul style="list-style-type: none"> <li>Establish a comprehensive GHG emissions baseline for key Sectors (Energy, Waste, Industry, Agriculture, Forestry, and Health) using internationally recognized methodologies, providing a benchmark for measuring progress toward emission reduction goals.</li> <li>Prioritize the community-level/regional inventories.</li> <li>Implement capacity-building programs to enhance data collection and reporting capabilities in key sectors (Energy, Waste, Industry, Agriculture, Forestry, and Health).</li> </ul>	<p>Ministry of Climate Change &amp; Environmental Coordination</p> <p>Ministry of Energy</p> <p>Ministry of Industries and Production</p> <p>Ministry of National Food Security and Research</p> <p>Ministry of National Health Services Regulations &amp; Coordination</p> <p>Provincial Environmental Protection Departments/ Agencies</p>
In Pakistan, there is an absence of centralized online platforms or repositories with established data-sharing protocols. <sup>80</sup> This results in limited access to crucial information, resources, and tools related to climate-resilient Public-Private Partnerships (PPPs). The lack of such platforms hampers effective collaboration among stakeholders and impedes the seamless dissemination of critical information for the development and implementation of climate-resilient PPPs in the country.	Development of Digital Data Sharing Platforms	<ul style="list-style-type: none"> <li>Promote centralized, up-to-date, and transparent data.</li> <li>Establish online platforms or repositories with data-sharing protocols where relevant information, resources, and tools related to climate-resilient PPPs are readily accessible to all stakeholders.</li> <li>Implement capacity-building programs aimed at enhancing the digital literacy of stakeholders involved in climate-resilient Public-Private Partnerships (PPPs).</li> <li>Develop digital emission inventories for government and local NGOs to showcase climate finance opportunities</li> </ul>	<p>Ministry of Information &amp; Technology</p> <p>Ministry of Climate Change &amp; Environmental Coordination</p>
Challenges in accelerating the development and deployment of sustainable and eco-friendly technologies persist. The absence of a dedicated platform hinders the efficient sharing of expertise among experts, investors, and developers. This lack of collaboration and knowledge sharing becomes a barrier to identifying effective strategies for promoting a green economy. A multistakeholder forum is essential to bridge these gaps, fostering a collaborative environment that enables collective exploration of possibilities and the formulation of strategies to expedite the advancement of sustainable technologies.	Multi-Stakeholder Forum Development	<ul style="list-style-type: none"> <li>Establish a multi-stakeholder forum for experts, investors, and developers to share expertise, explore possibilities, and identify strategies for the development of a hydrogen economy.</li> <li>Promote collaboration and knowledge sharing within the established multi-stakeholder forum to accelerate the development of a green economy.</li> </ul>	<p>Ministry of Climate Change &amp; Environmental Coordination</p> <p>Ministry of Planning, Development, and Special Initiatives</p> <p>Private Sector Stakeholders</p>

80. [http://www.gcisc.org.pk/SNC\\_Pakistan.pdf](http://www.gcisc.org.pk/SNC_Pakistan.pdf)

Table 7: Priority Actions

Need	Mechanism	Action	Responsible Agency
Limited awareness, insufficient regulatory frameworks, data and monitoring gaps, lack of access to finance, and technological barriers are challenges that exist in Pakistan. <sup>81</sup> Despite these hurdles, the importance of navigating these challenges is evident. It lies in providing economic incentives for sustainable practices, contributing to global climate mitigation, engaging the private sector, facilitating technology transfer, and fostering international collaboration for emission reduction projects. PPPs are essential in addressing challenges in carbon market development by fostering collaborative efforts between government and private entities. These partnerships help overcome resource constraints, leverage diverse expertise, and facilitate the adoption of sustainable practices, contributing to a more effective transition to a low-carbon economy.	Develop Mechanism for Carbon Credits Trading	<ul style="list-style-type: none"> <li>Develop clear and transparent regulations for international carbon credit trading, ensuring alignment with international standards.</li> <li>Offer financial incentives to encourage participation in emissions reduction projects, such as subsidies, tax breaks, or guaranteed offtake agreements.</li> <li>Simplify project registration and approval processes to minimize bureaucratic obstacles to emissions reduction initiatives.</li> <li>Integrate carbon market mechanisms into Pakistan's financing framework through collaboration with international partners.</li> <li>Conduct and share scoping studies on carbon market potential across sectors to attract international investment.</li> <li>Promote private sector involvement in carbon credit trading by facilitating investment, promoting innovative technologies, and encouraging transparent sustainability reporting.</li> </ul>	<p>Ministry of Climate Change &amp; Environmental Coordination</p> <p>Ministry of Finance</p> <p>Ministry of Planning, Development, and Special Initiatives</p> <p>Development Organizations (UNDP, USAID, UKAID, UN-Women, UNICEF, World Bank, IsDB, ADB, GCF, GEF)</p> <p>Private Sector Stakeholders</p>
Efficient resource allocation is hindered in Pakistan, by a lack of understanding of potential financial support sources and donor preferences (Section 3.4). Informed decision-making is also set back by insufficient knowledge of the donor landscape, impacting resource utilization and plan execution. Addressing these needs for understanding, insights, and information is essential for optimized resource allocation, aligned plans, and successful adaptation to a dynamic environment.	Comprehensive Donor Mapping	<ul style="list-style-type: none"> <li>Conduct an in-depth analysis of potential donors and their funding priorities aligned with Pakistan's NDC goals.</li> <li>Develop detailed profiles of relevant funding institutions, including eligibility criteria, application procedures, and preferred project types.</li> <li>Establish strategic partnerships with key donors and develop joint project proposals based on identified funding opportunities.</li> </ul>	<p>Ministry of Finance</p> <p>Ministry of Economic Affairs, Economic Affairs Division</p> <p>Ministry of Climate Change &amp; Environmental Coordination</p>

81. <https://www.adb.org/sites/default/files/publication/357876/climate-change-profile-pakistan.pdf>

Table 7: Priority Actions			
Need	Mechanism	Action	Responsible Agency
Pakistan faces challenges of limited access to best practices and knowledge in emissions reduction initiatives, as well as obstacles to adopting efficient and low-emitting technologies due to insufficient technology transfer and knowledge sharing between international and local private sector organizations. Engaging in bilateral and multilateral cooperation is essential to address these challenges.	Cross-Border Cooperation	<ul style="list-style-type: none"> <li>Conduct a comprehensive mapping of opportunities for emissions reduction initiatives and technologies across different countries through expos and technology fairs.</li> <li>Federal and Provincial governments to engage in bilateral and multilateral cooperation with developed countries and partner nations to share best practices, exchange knowledge, and develop joint ventures for emissions reduction initiatives.</li> <li>Promote technology transfer and knowledge sharing between international and Pakistani Private Sector Organizations to enhance the adoption of efficient and low-emitting technologies.</li> </ul>	<p>Ministry of Climate Change &amp; Environmental Coordination</p> <p>Ministry of Foreign Affairs</p> <p>Development Organizations (UNDP, USAID, UKAID, UNICEF, UN-Women, World Bank, IsDB, ADB, GCF, GEF)</p> <p>Private Sector Stakeholders</p>
Given Pakistan's commitment to the UNFCCC, the country is required to update its NDCs (Nationally Determined Contributions) every five years and submit a BTR (Biennial Transparency Report) every two years. Furthermore, the annual decisions made at the COP (Conference of Parties) combined with BTR and NDC revisions underscore the need for a mechanism to continuously enhance the plan. Regular updates and improvements are essential to ensure the plan stays in sync with the evolving decisions and climate commitments, maintaining its relevance and effectiveness.	Mechanism for Continuous Plan Revision	<ul style="list-style-type: none"> <li>Conduct regular assessments of the NDC Implementation Plan to ensure it remains aligned with the latest NDC revisions and targets.</li> <li>Update the plan with new priority actions, timelines, and resource allocations based on revised NDC commitments.</li> <li>Develop clear mechanisms for incorporating feedback from stakeholders and monitoring progress towards achieving NDC goals.</li> </ul>	Ministry of Climate Change & Environmental Coordination





# IMPLEMENTATION ARRANGEMENT

The implementation of the plan requires a comprehensive institutional arrangement and a monitoring and evaluation framework. The following sections propose the arrangement for the implementation of the investment plan based on desk review which needs further elaboration based on consultations with the stakeholders.

## 5.1 Institutional Arrangement

The institutional arrangement for the implementation of Pakistan's NDC (Nationally Determined Contributions) Investment Plan is recommended, by following guidelines given in the Pakistan Climate Change Act, 2017, to be structured to efficiently achieve the country's ambitious climate goals.<sup>82</sup> The lead role should be assigned to the Pakistan Climate Change Authority (PCCA), which oversees the entire process, sets strategic priorities, allocates resources, and monitors progress. The PCCA Board should be comprised of members from adaptation, mitigation, climate finance, and coordination, offering strategic guidance and approving crucial decisions. To enhance technical expertise, specific Technical Committees should be established for sectors like energy, industry, agriculture, waste, forestry, and health providing advice to the PCCA Board. The PCCA supports the administrative and technical aspects of the authority.

On the Federal Level, the Ministry of Finance is

recommended to be tasked with mobilizing domestic and international resources, managing the Climate Change Fund alongside PCCA, and developing financial mechanisms, such as public-private partnerships. It should also ensure financial oversight through a robust system. Further, the Ministry of Climate Change & Environmental Coordination should provide technical guidance on climate change strategies, project identification, and environmental impact assessments. It should collaborate with provincial ministries for project implementation on the ground and monitor progress, evaluating project effectiveness. Provincial Sectoral Ministries, responsible for sectors like energy, industry, waste, agriculture, forestry, and health, should lead the implementation of NDC priority actions within their domains, aligning them with provincial needs and priorities.

The institutional framework should also emphasize private sector engagement, encouraging participation through innovative financing mechanisms and policy incentives. Civil society and community participation are integral, ensuring inclusivity in project design, implementation, and monitoring to address the social dimensions of climate change. Moreover, knowledge management and capacity building should be prioritized through training, knowledge sharing, and research to enable informed decision-making at all levels.

82. Pakistan Climate Change Act, 2017 - [https://climate-laws.org/documents/pakistan-climate-change-act-2017\\_4201?id=pakistan-climate-change-act-2017\\_3453](https://climate-laws.org/documents/pakistan-climate-change-act-2017_4201?id=pakistan-climate-change-act-2017_3453)

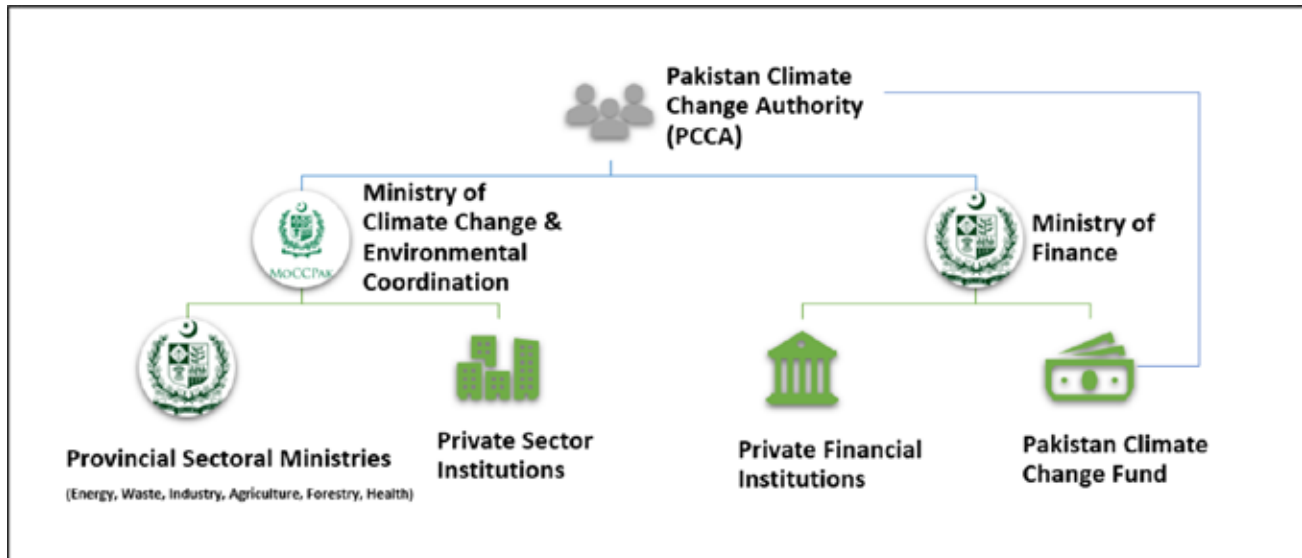


Figure 17: Institutional Arrangement<sup>83</sup>

Critical success factors include strong leadership and political commitment, which would empower the PCCA with clear mandates and adequate resources. Transparent and accountable governance, encompassing financial management, procurement, and monitoring, will be crucial for building trust and attracting investment. Effective coordination and collaboration among stakeholders should be emphasized for efficient project execution. The plan is designed to be flexible and adaptable, ensuring it can adjust to changing circumstances and evolving technologies, thereby ensuring its long-term effectiveness. Through this comprehensive institutional arrangement, Pakistan aims

to establish a robust framework for NDC investment plan execution, leveraging the expertise and resources of all stakeholders to achieve its climate goals and build a sustainable future.

## 5.2 Monitoring and Evaluation (M&E) Framework

The Monitoring and Evaluation Framework is to be focused on the Key Performance Indicators (KPIs) for the suggested priority actions.

The following (Table 5) shows the key performance indicators, alongside their responsible agencies, and targets for the upcoming years.

83. Pakistan Climate Change Act, 2017 - [https://climate-laws.org/documents/pakistan-climate-change-act-2017\\_4201?id=pakistan-climate-change-act-2017\\_3453](https://climate-laws.org/documents/pakistan-climate-change-act-2017_4201?id=pakistan-climate-change-act-2017_3453)

Table 8: Key Performance Indicators (KPIs) of Priority Actions				
PRIORITY ACTION/ MECHANISM	RESPONSIBLE AGENCY/ AUTHORITY	KEY INDICATOR	TARGETS	FREQUENCY OF REPORTING
Institutionalize Plan Implementation	• Government of Pakistan	<ul style="list-style-type: none"> <li>No. of Entities Consulted (Federal/ Provincial)</li> <li>No. of Engagements</li> <li>Implementation Arrangement Decided (Yes/No)</li> </ul>	<ul style="list-style-type: none"> <li>30 (Federal) &amp; 50 (Provincial)</li> <li>2 per year</li> <li>Yes</li> </ul>	Annual
Green Taxonomy Development	• Ministry of Finance	<ul style="list-style-type: none"> <li>No. of workshops/meetings on green taxonomy criteria development</li> <li>No. of workshops/meetings on green taxonomy capacity building</li> </ul>	<ul style="list-style-type: none"> <li>1 per year</li> <li>2 per year</li> </ul>	Annual
Policy Framework for Gender & Youth Inclusion	• Ministry of Climate Change & Environmental Coordination	<ul style="list-style-type: none"> <li>No. of policies updated to include Gender and youth perspectives.</li> <li>No. of new gender and Youth Policies formed</li> </ul>	<ul style="list-style-type: none"> <li>1 per year</li> <li>2 (updated every 3 years)</li> </ul>	Biennial
Guidebook Development for Project Forms and Climate Sensitive Budgeting	• Ministry of Planning, Development, and Special Initiatives	<ul style="list-style-type: none"> <li>No. of workshops on capacity building for climate considerations in project forms (PC-I – PC-V)</li> <li>No. of workshops on capacity building for climate considerations in budgeting</li> <li>Timeframe for the development of guidebooks</li> </ul>	<ul style="list-style-type: none"> <li>1 per year</li> <li>1 per year</li> <li>By 2025</li> </ul>	Annual
MRV Framework Establishment	• Ministry of Climate Change & Environmental Coordination	<ul style="list-style-type: none"> <li>No. of consultations</li> <li>Timeframe of MRV framework establishment</li> </ul>	<ul style="list-style-type: none"> <li>1 per year</li> <li>By 2026</li> </ul>	Annual
Establish GHG Inventories	• Ministry of Climate Change & Environmental Coordination	<ul style="list-style-type: none"> <li>No. of meetings for baseline data collection and consultation</li> <li>Timeframe for GHG inventory development</li> </ul>	<ul style="list-style-type: none"> <li>1 per year</li> <li>By 2026</li> </ul>	Annual
Development of Digital Data Sharing Platforms	• Ministry of Information & Technology	<ul style="list-style-type: none"> <li>No. of meetings for data collection</li> <li>Timeframe for the establishment of the digital platform</li> </ul>	<ul style="list-style-type: none"> <li>2 per year</li> <li>By 2025</li> </ul>	Annual
Multi-Stakeholder Forum Development	• Ministry of Planning, Development, and Special Initiatives	<ul style="list-style-type: none"> <li>No. of meetings/consultations for stakeholder mapping</li> <li>Timeframe for forum development</li> </ul>	<ul style="list-style-type: none"> <li>2 per year</li> <li>By 2027</li> </ul>	Annual
Develop Mechanism for Carbon Credits Trading	• Ministry of Climate Change & Environmental Coordination	<ul style="list-style-type: none"> <li>No. of stakeholder meetings for mechanism development</li> <li>Emissions reduction achieved.</li> <li>Timeframe for Carbon Credits Trading Mechanism development</li> </ul>	<ul style="list-style-type: none"> <li>2 per year</li> <li>24 MtCO<sub>2e</sub> per year (~5% of total emissions)</li> <li>By 2025</li> </ul>	Annual
Comprehensive Donor Mapping	• Ministry of Finance	<ul style="list-style-type: none"> <li>No. of meetings/conferences to map donors.</li> <li>Number of engagements between donors and the public sector</li> </ul>	<ul style="list-style-type: none"> <li>1 per year</li> <li>3 per year</li> </ul>	Annual
Cross-Border Cooperation	• Government of Pakistan	<ul style="list-style-type: none"> <li>No. of bilateral/multilateral meetings/discussions</li> </ul>	<ul style="list-style-type: none"> <li>1 per year</li> </ul>	Biennial
Mechanism for Continuous Plan Revision	• Pakistan Climate Change Authority	<ul style="list-style-type: none"> <li>No. of revisions made</li> </ul>	<ul style="list-style-type: none"> <li>1 every 2 years</li> </ul>	Biennial



## WAY FORWARD

The NDC Investment Plan for Pakistan addresses financial gaps in six key sectors—Energy, Industry, Waste, Agriculture, Forestry, and Health. By analyzing previous fiscal year budgets, the plan identifies a need for an additional USD 2,367 million to meet Pakistan’s NDC commitments in addition to the existing budgets.

The plan focuses on both domestic and international finance and outlines specific actions for each sector. Immediate priority actions are identified, along with

responsible agencies, key indicators, and targets. This roadmap provides a clear framework for successful plan execution.

The institutional arrangement for plan implementation is recommended in the Plan, but it needs further consultations to refine and solidify the structure. Adhering to this approach positions Pakistan to successfully meet its NDC targets, demonstrating a commitment to sustainable development and environmental stewardship.

## ANNEX I

# FINANCING MECHANISMS

TERM	DEFINITION
Carbon Markets	Carbon markets are trading systems in which carbon credits are sold and bought. Companies or individuals can use carbon markets to compensate for their greenhouse gas emissions by purchasing carbon credits from entities that remove or reduce greenhouse gas emissions. One tradable carbon credit equals one ton of carbon dioxide, or the equivalent amount of a different greenhouse gas reduced, sequestered, or avoided. When a credit is used to reduce, sequester, or avoid emissions, it becomes an offset and is no longer tradable.
NDCs	Nationally determined contributions (NDCs) are at the heart of the Paris Agreement and the achievement of its long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate, and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, to achieve the objectives of such contributions.
Green Taxonomy	A green taxonomy is a framework for defining what can be called environmentally sustainable investments. In addition to tackling “greenwashing (False Environmental Progress)”, a green taxonomy can help companies and investors make more informed choices.
MRV	Measurement, Reporting, and Verification (MRV) refers to the multi-step process to measure the amount of greenhouse gas (GHG) emissions reduced by a specific mitigation activity, such as reducing emissions from deforestation and forest degradation, over some time, and reporting these findings to an accredited third party. The third party then verifies the report so that the results can be certified, and carbon credits can be issued.
Public-private partnerships	Partnership between the public sector and the private sector to deliver a project or a service traditionally provided by the public sector
Green Bonds	A green bond is a debt security issued by an organization for financing or refinancing projects that contribute positively to the environment and/or climate. A green bond is alternatively known as a climate bond.
Debt-for-Nature Swap	A debt-for-nature swap involves purchasing foreign debt, converting that debt into local currency, and using the proceeds to fund conservation activities. The key to the transaction lies in the willingness of commercial banks (or governments) to sell debt at less than the full value of the original loan.
Climate Bonds	Bonds are specifically aimed at financing projects that address climate change issues.
Social Bonds	Bonds that raise funds for new and existing projects with positive social outcomes.
Sustainability Bonds	Bonds that finance a combination of green and social projects.
Blue Bonds	Bonds are designed to finance marine and ocean-based projects that have positive environmental, economic, and climate benefits.
Emission Trading Systems (ETS)	Markets for buying and selling allowances for emissions, encouraging companies to reduce their carbon footprint.

TERM	DEFINITION
Climate Risk Insurance	Insurance products that protect against damages from climate-related risks.
Catastrophe Bonds	High-yield debt instruments are designed to raise money in case of a catastrophe such as a hurricane or earthquake. They transfer the risk from the insurer to investors.
Resilience Bonds	Bonds are designed to fund infrastructure projects that will help cities and communities become more resilient to the impacts of climate change.
Microfinance for Renewable Energy	Small-scale financial services for individuals or small businesses to afford renewable energy solutions.
Green Microfinance	Microfinance products (small loans, savings, insurance) that incentivize sustainable environmental practices.
Payment for Ecosystem Services (PES)	Payments to landowners for managing their land to provide some sort of ecological service.
Green Revolving Funds (GRFs)	Funds that finance energy efficiency, renewable energy, and other sustainability projects with the savings from these projects
Yieldco	Publicly traded companies that are formed to own income-generating renewable energy assets.
Renewable Energy Certificates (RECs)	Certificates that represent proof that 1 megawatt-hour (MWh) of electricity was generated from a renewable energy resource.
Mezzanine Finance	Mezzanine financing combines debt and equity financing, allowing the lender to convert to equity if the loan is not paid on time or in full.
Adaptation benefits mechanism	Results-based financing instrument designed to catalyze private investment into adaptation projects through grants to project sponsors to repay commercial investors.
Climate risk insurance	Financial tool diversifying and smoothing risks from climate-related extreme weather events among people and across time.



## ANNEX II

# ADDITIONAL IDENTIFIED ACTIONS

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Energy Sector</b>			
<b>Outcome 1: Strengthening Climate-Sensitive Budgeting and Governance</b>			
<b>Action 1.1:</b> Develop comprehensive climate-sensitive guidelines and training materials for government officials involved in budgeting processes, incorporating energy efficiency considerations & promoting renewable energy projects for better decision-making while planning energy budgets.	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC&amp;EC)</li> <li>Ministry of Finance</li> <li>Ministry of Energy</li> <li>Planning Commission of Pakistan</li> <li>Provincial Planning Departments</li> </ul>	Short Term	Strengthening climate-sensitive budgeting and governance is included in Pakistan's National Climate Change Policy and NDCs. Stakeholder engagement and training is a key feature the country has been working on. SBP established Pakistan's first Green Banking Guidelines in 2017 which calls on banks to align their initiatives and operations with the issued guidelines. Work on the development of green taxonomy has also begun. Improvements in the framework of climate governance and projects are required along with updated and digitalized data to promote renewable and sustainable sources of energy.
<b>Action 1.2:</b> Update policies to ensure that banks set targets to support climate change efforts in clean and affordable energy projects, including renewable energy, energy efficiency, and grid infrastructure development.	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>State Bank of Pakistan</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>Pakistan Banking Association (PBA)</li> </ul>	Long Term	
<b>Action 1.3:</b> Establish a green taxonomy, a classification system aligned with international standards, to identify sustainable projects, including those related to renewable energy, energy efficiency, grid infrastructure development, and hydrogen economy technologies, and help investors make informed and sustainable investment decisions.	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> </ul>	Long Term	
<b>Action 1.4:</b> Develop a guidebook for planning wings to train officials in filling out and appraising Climate Change components in the PC-I–PC-V formats for renewable energy, energy efficiency, and green building projects.	<ul style="list-style-type: none"> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Ministry of Energy</li> <li>National Energy Efficiency and Conservation Agency (NEECA)</li> <li>Provincial Planning Departments</li> </ul>	Short Term	
<b>Action 1.5:</b> Prioritize budget allocations in ADPs towards renewable energy, clean energy generation, and energy efficiency projects in provinces and regions lacking focus, ensuring equitable distribution of resources.	<ul style="list-style-type: none"> <li>Provincial Planning and Development Departments</li> <li>Provincial Energy Departments</li> </ul>	Short Term	
<b>Action 1.6:</b> Define a comprehensive framework that outlines roles, responsibilities, and communication protocols for federal and provincial entities to reduce unnecessary delays in climate resilience projects related to renewable energy, energy efficiency, grid infrastructure, and hydrogen economy initiatives.	<ul style="list-style-type: none"> <li>National Climate Change Committee (NCCC)</li> <li>Provincial Chief Secretaries</li> </ul>	Short Term	
<b>Action 1.7:</b> Expand concessional funding mechanisms to support high-priority energy ventures related to renewable energy, energy efficiency, grid infrastructure, and hydrogen economy technologies.	<ul style="list-style-type: none"> <li>State Bank of Pakistan</li> <li>Pakistan Microfinance Investment Corporation (PMIC)</li> <li>Financial institutions and banks</li> </ul>	Short Term	
<b>Action 1.8:</b> Develop digital emission inventories for government and local NGOs to showcase climate finance opportunities.	<ul style="list-style-type: none"> <li>MoCC&amp;EC</li> <li>Ministry of Power</li> <li>Sustainable Development Policy Institute</li> <li>World Wildlife Fund-Pakistan</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 2: Promotion of Public-Private Partnerships (PPP) for Climate Resilience</b>			
<b>Action 2.1:</b> Establish a multi-stakeholder forum for experts, investors, and developers to share expertise, explore possibilities, and identify strategies to accelerate the development and deployment of green, blue, and turquoise hydrogen technologies, promoting collaboration and knowledge sharing for the development of a hydrogen economy.	<ul style="list-style-type: none"> <li>Ministry of Energy</li> <li>Alternative Energy Development Board (AEDB)</li> <li>Academia and research institutions</li> </ul>	Short Term	PPP for Climate Resilience is a vital component of Pakistan's climate efforts in the energy and renewable sector. Pakistan has utilized key mechanisms such as a Standing Committee of Climate Change, a National Steering Committee, PM's Climate Change Committee, and a National Coordination Forum on Climate Change and has initiated efforts for carbon trading, research, and knowledge sharing, along with the development of a facilitative environment to foster further PPP ambition and action.
<b>Action 2.2:</b> Foster a supportive policy environment through dialogues and workshops that encourage private sector participation in climate-resilient energy projects, including renewable energy, energy efficiency, grid infrastructure, and hydrogen economy initiatives, by establishing clear regulatory guidelines, risk mitigation mechanisms, and tailored incentives.	<ul style="list-style-type: none"> <li>Ministry of Energy</li> <li>Ministry of Finance</li> <li>National Tariff Commission (NTC)</li> <li>National Electric Power Regulatory Authority (NEPRA)</li> </ul>	Long Term	
<b>Action 2.3:</b> Engage the private sector in carbon credits trading: <ul style="list-style-type: none"> <li>Promote the formation and active participation of industry associations in emissions reduction efforts by raising awareness, facilitating knowledge sharing, and coordinating collective action.</li> <li>Create an enabling environment for private sector investment in emissions reduction projects, which includes providing access to finance, risk mitigation mechanisms, and targeted incentives for specific sectors.</li> <li>Facilitate the adoption of innovative technologies and approaches for emissions reduction, involving supporting research and development, pilot projects, and technology transfer partnerships.</li> <li>Encourage companies to adopt transparent sustainability reporting practices, including disclosure of their emissions footprints and carbon reduction strategies.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC&amp;EC)</li> <li>Pakistan Environmental Protection Agencies (PEPAs)</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>Pakistan Stock Exchange (PSE)</li> <li>Private sector associations</li> </ul>	Short Term	
<b>Action 2.4:</b> Enhance collaboration and knowledge sharing between government agencies, private sector partners, and academia to develop innovative solutions and best practices for climate-resilient energy PPPs.	<ul style="list-style-type: none"> <li>Ministry of Energy</li> <li>Alternative Energy Development Board (AEDB)</li> <li>National Energy Efficiency and Conservation Agency (NEECA)</li> <li>Academia and research institutions</li> <li>Private Sector Associations</li> </ul>	Short Term	
<b>Action 2.5:</b> Establish online platforms or repositories with data-sharing protocols where relevant information, resources, and tools related to climate-resilient energy PPPs are readily accessible to all stakeholders.	<ul style="list-style-type: none"> <li>Ministry of Energy</li> <li>Renewable Energy Development Agency (REDA)</li> <li>Sustainable Development Policy Institute (SDPI)</li> <li>Private sector associations</li> </ul>	Short Term	
<b>Action 2.6:</b> Develop an open innovation approach where ideas and solutions are shared openly among stakeholders, fostering a culture of collaboration and innovation.	<ul style="list-style-type: none"> <li>Ministry of Energy</li> <li>Private Sector associations</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 2.7:</b> Capitalizing Credit Guarantee Companies and Schemes aimed to address the low capitalization of existing credit guarantee companies and schemes, which has limited their ability to support renewable energy projects.</p>	<ul style="list-style-type: none"> <li>• Ministry of Finance</li> <li>• State Bank of Pakistan</li> <li>• National Development Finance Corporation (NDFC)</li> <li>• Private sector associations</li> </ul>	Long Term	
<p><b>Action 2.8:</b> Create an enabling environment for private sector participation in climate-resilient energy projects by providing incentives, reducing regulatory hurdles, and facilitating access to finance.</p>	<ul style="list-style-type: none"> <li>• Ministry of Energy</li> <li>• Ministry of Finance</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Private sector associations</li> <li>• NEPRA</li> </ul>	Long Term	
<p><b>Action 2.9:</b></p> <ul style="list-style-type: none"> <li>- Promote Publicly traded companies that are formed to own income-generating renewable energy assets, while also focusing on impact investing.</li> <li>- Develop Environmental, Social, and Governance (ESG) Criteria comprising a set of standards for a company's behavior used by socially conscious investors to screen potential investments.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Energy</li> <li>• Ministry of Finance</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Private sector associations</li> <li>• NEPRA</li> </ul>	Long Term	
<p><b>Action 2.10:</b></p> <ul style="list-style-type: none"> <li>- Encourage renewable energy companies to create Yieldco. A company can transfer its assets, typically at a premium to their costs, to the yieldco. The yieldco then raises equity by issuing shares to investors, promising low-risk returns (dividends).</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Energy</li> <li>• Ministry of Finance</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Private sector associations</li> <li>• NEPRA</li> </ul>	Long Term	
<p><b>Action 2.11:</b></p> <ul style="list-style-type: none"> <li>- Establish Green Investment Banks to provide financial support to green projects using a variety of financial instruments.</li> </ul>	<ul style="list-style-type: none"> <li>• State Bank of Pakistan</li> <li>• Ministry of Finance</li> <li>• Private sector associations</li> <li>• Commercial Banks</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 3: Leveraging International Climate Finance and Cooperation</b>			
<p><b>Action 3.1:</b> Develop emission inventories for data to be available to internal and external stakeholders for international donors and agencies.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC&amp;EC)</li> <li>Pakistan Meteorological Department (PMD)</li> <li>Sustainable Development Policy Institute (SDPI)</li> <li>Academia and research institutions</li> <li>International and multilateral organizations GCF, Clean Technology Fund, ADB, IsDB, USAID, EU, and World Bank</li> <li>Provincial Planning Departments</li> <li>NEPRA</li> </ul>	Short Term	<p>National Climate Change Policy, NDCs, and other key plans note the importance of mobilizing climate finance and cooperation in the energy sector. Pakistan has initiated efforts through securing funding from key global partners such as GCF and promoting emission reduction projects such as Delta Blue Carbon in Sindh, however, scaling up requires the development of a conducive environment, research, and development, along with stakeholder engagement.</p>
<p><b>Action 3.2:</b> Promote Emissions Reduction projects for carbon credit trading:</p> <ul style="list-style-type: none"> <li>Develop clear and transparent regulations for international carbon credit trading, ensuring alignment with international standards.</li> <li>Offer financial incentives to encourage participation in emissions reduction projects, such as subsidies, tax breaks, or guaranteed offtake agreements.</li> <li>Streamline the process for project registration and approval, reducing bureaucratic hurdles and supporting the implementation of emissions reduction initiatives.</li> <li>Coordinate with international partners and entities to integrate carbon market and emission trading systems (ETS) mechanisms into Pakistan's financing framework.</li> <li>Conduct and disseminate scoping studies on carbon market potential for all sectors to attract international investment</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change &amp; Environmental Coordination (MoCC&amp;EC)</li> <li>Pakistan Environmental Protection Agency (EPA)</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>Pakistan Stock Exchange (PSE)</li> <li>International partners and entities</li> <li>Provincial Planning Departments</li> <li>NEPRA</li> </ul>	Long Term	
<p><b>Action 3.3:</b> Enhance institutional capacity through comprehensive training programs to navigate complex international finance mechanisms and facilitate access to international climate finance.</p>	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>Economic Affairs Division (EAD)</li> <li>International financial institutions and training providers</li> <li>Provincial Planning Departments</li> </ul>	Long Term	
<p><b>Action 3.4:</b> Issue foreign currency-denominated green bonds, climate bonds, social bonds, sustainability bonds, and blue bonds facilities for energy projects with export orientation</p> <ul style="list-style-type: none"> <li>Ensure adequate capital market infrastructure by developing modern and efficient payment systems and strengthening investor protection mechanisms.</li> <li>Develop financing mechanisms like Microfinance for Renewable Energy, Green Microfinance, Mezzanine Finance, and Green Revolving Funds for Small-scale financial services for individuals or small businesses to afford renewable energy solutions.</li> <li>Provide Renewable Energy Certificates (RECs) that represent proof that 1 megawatt-hour (MWh) of electricity was generated from a renewable energy resource.</li> <li>Ensure sound taxation &amp; and accounting frameworks, legislative enforcement, and protection of creditor rights</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>State Bank of Pakistan</li> <li>Investment banks and financial institutions</li> <li>International and multilateral organizations GCF, Clean Technology Fund, ADB, IsDB, USAID, EU, and World Bank</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Action 3.5:</b> Execute comprehensive donor mapping, specifically focusing on renewable energy, e-mobility, and emissions reduction projects to attract international climate finance.	<ul style="list-style-type: none"> <li>Ministry of Climate Change &amp; Environmental Coordination (MoCC &amp; EC)</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Ministry of Finance</li> <li>Donor Organizations (World Bank, ADB, IsDB UNDP, UNEP, USAID, UKAID, UN-Women)</li> </ul>	Short Term	
<b>Industrial Sector</b>			
<b>Outcome 1: Strengthening Climate-Sensitive Budgeting and Governance</b>			
<b>Action 1.1:</b> Establish clear and transparent policy frameworks with incentives for cleaner production techniques to promote energy efficiency and reduce emissions, contributing to establishing GHG emissions baselines for industries.	<ul style="list-style-type: none"> <li>Ministry of Industries and Production</li> <li>Environment Protection Agency (EPA)</li> <li>Pakistan Industrial Technical Assistance Centre (PITAC)</li> </ul>	Long Term	Strengthening climate-sensitive budgeting and governance for the industrial sector is included in Pakistan's National Climate Change Policy and NDCs. Stakeholder engagement and training is a key feature the country has been working on. SBP established Pakistan's first Green Banking Guidelines in 2017 which calls on banks to align their initiatives and operations with the issued guidelines. Work on the development of green taxonomy has also begun. Improvements in the framework of climate governance and projects are required along with updated and digitalized data to ensure sustainable industrial growth.
<b>Action 1.2:</b> Promote technological advancement and innovation for emissions reduction with a focus on emission control and net-zero emission goals, including financial incentives, tax breaks, R&D partnerships, and adoption of advanced technologies like automation and AI.	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC&amp;EC)</li> <li>Ministry of Industries and Production</li> <li>Ministry of Science and Technology</li> <li>Pakistan Council for Science and Technology (PCST)</li> <li>Provincial Planning Departments</li> <li>Small and Medium Enterprises Development Authority (SMEDA)</li> <li>Academia and research institutions</li> </ul>	Long Term	
<b>Action 1.3:</b> Enhance industrial productivity while reducing emissions through lean manufacturing, automation, and industry clusters, promoting energy efficiency, emission control, and progress towards net-zero emissions.	<ul style="list-style-type: none"> <li>Ministry of Industries and Production</li> <li>Pakistan Energy Efficiency and Conservation Agency (PEECA)</li> <li>Small and Medium Enterprises Development Authority (SMEDA)</li> <li>Provincial Planning Departments</li> <li>Private sector associations</li> </ul>	Long Term	
<b>Action 1.4:</b> Prioritize budget allocations in ADPs towards cleaner production and efficient technology, specifically focusing on energy efficiency and emission control initiatives.	<ul style="list-style-type: none"> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Ministry of Industries and Production</li> <li>Board of Investment (BOI)</li> <li>Provincial Planning and Development Departments</li> </ul>	Short Term	
<b>Action 1.5:</b> To reduce unnecessary delays in climate resilience projects, define a comprehensive framework that outlines roles, responsibilities, and communication protocols for federal and provincial entities involved in sustainable projects.	<ul style="list-style-type: none"> <li>Prime Minister's Office</li> <li>Ministry of Industries and Production</li> <li>National Climate Change Committee (NCCC)</li> <li>Provincial Chief Secretaries</li> <li>Pakistan Industrial Technical Assistance Centre (PITAC)</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 1.6:</b> Implement a robust MRV mechanism for major industries with clear methodologies, standardized reporting, and independent verification, ensuring accurate and reliable emissions data for effective MRV functioning.</p>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Pakistan Environmental Protection Agency (EPA)</li> <li>• Provincial Environmental Protection Agencies (EPAs)</li> <li>• National Institute of Environmental Health (NIEHS)</li> <li>• Industrial associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>• Independent verification bodies</li> </ul>	Long Term	
<p><b>Action 1.7:</b> Develop and implement an Emissions Capping Mechanism for industries, aiming for an overall reduction in emissions:</p> <ul style="list-style-type: none"> <li>• Set sector-specific emissions caps based on feasibility, economic considerations, and national reduction targets, guiding industries towards compliance.</li> <li>• Monitor and enforce emissions compliance through regular audits and inspections, ensuring adherence to the established emissions caps.</li> <li>• Review and adjust caps periodically based on technological advancements, economic conditions, and revised national reduction targets, maintaining the effectiveness of the emissions capping mechanism and adaptation to changing circumstances.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Ministry of Industries and Production</li> <li>• Pakistan Environmental Protection Agency (EPA)</li> <li>• Provincial Environmental Protection Agencies (EPAs)</li> <li>• Industrial associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>• Small and Medium Enterprise Development Authority (SMEDA)</li> <li>• Provincial Planning Departments</li> <li>• Academia and research institutions</li> <li>• Independent consultants</li> </ul>	Long Term	
<p><b>Action 1.8:</b> Establish a comprehensive GHG emissions baseline for key industries using internationally recognized methodologies, providing a benchmark for measuring progress towards emission reduction goals.</p>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Pakistan Environmental Protection Agency (EPA)</li> <li>• Provincial Environmental Protection Agencies (PEPAs)</li> <li>• National Institute of Environmental Health (NIEHS)</li> <li>• International organizations (e.g., UN Environment Programme, World Bank)</li> <li>• Provincial Planning Departments</li> <li>• Academia and research institutions</li> </ul>	Long Term	
<p><b>Action 1.9:</b> Develop digital emission inventories for government and local NGOs to showcase climate finance opportunities.</p>	<ul style="list-style-type: none"> <li>• MoCC&amp;EC</li> <li>• Ministry of Industries and Production</li> <li>• Sustainable Development Policy Institute</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 2: Promotion of Public-Private Partnerships (PPP) for Climate Resilience</b>			
<p><b>Action 2.1:</b> Establish a dedicated PPP unit within the government to act as a one-stop shop for private sector investors, providing guidance, information, and support throughout the PPP project development and implementation process.</p> <ul style="list-style-type: none"> <li>Develop a comprehensive PPP pipeline of climate-resilient industrial projects, showcasing potential investment opportunities for the private sector.</li> <li>Organize regular industry-government dialogues and forums to facilitate communication, collaboration, and knowledge sharing between public and private stakeholders on climate-resilient industrial development.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Industries and Production</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Board of Investment (BOI)</li> <li>Pakistan Industrial Technical Assistance Centre (PITAC)</li> <li>Private sector associations</li> </ul>	Long Term	<p>PPP for Climate Resilience is a vital component of Pakistan's climate efforts in the industrial sector. Pakistan has utilized key mechanisms such as a Standing Committee of Climate Change, a National Steering Committee, PM's Climate Change Committee, and a National Coordination Forum on Climate Change and has initiated efforts for carbon trading, research, and knowledge sharing, along with the development of a facilitative environment to foster further PPP ambition and action.</p>
<p><b>Action 2.2:</b></p> <ul style="list-style-type: none"> <li>Develop and implement innovative financing mechanisms for PPP projects, such as blended finance, green bonds, credit guarantees, and junior equity, to address financing gaps and attract private investment.</li> <li>Streamline PPP approval processes to reduce administrative burdens and delays for private sector investors.</li> <li>Develop a robust risk mitigation framework for PPP projects, including political risk insurance and performance guarantees, to incentivize private sector participation.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>Ministry of Industries and Production</li> <li>Public Private Partnership Authority (PPPA)</li> <li>Private sector associations</li> </ul>	Short Term	
<p><b>Action 2.3:</b> Establish a knowledge management platform to share best practices, case studies, and success stories on PPP projects in the industrial sector, promoting learning and replication.</p> <ul style="list-style-type: none"> <li>Develop capacity-building programs for government officials and private sector stakeholders to enhance their understanding of PPP frameworks and best practices.</li> <li>Facilitate collaboration and knowledge exchange between international and local partners on PPP models and implementation strategies for climate-resilient industrial development.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Industries and Production</li> <li>Ministry of Science and Technology</li> <li>Pakistan Council for Science and Technology (PCST)</li> <li>Academia and research institutions</li> <li>Private sector associations</li> <li>Pakistan Industrial Technical Assistance Centre (PITAC)</li> </ul>	Long Term	
<p><b>Action 2.4:</b> To attract private sector investment, address financing challenges for PPP projects by establishing innovative financing mechanisms, providing risk guarantees and blended finance solutions</p>	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>State Bank of Pakistan</li> <li>Alternative Energy Development Board (AEDB)</li> <li>Board of Investment (BOI)</li> <li>Credit guarantee companies and schemes</li> </ul>	Long Term	
<p><b>Action 2.5:</b> Create an enabling environment for private sector participation in climate-resilient industrial projects, offering incentives, reducing regulatory hurdles, and facilitating access to finance, with a specific focus on supporting projects that promote energy efficiency and emission control.</p>	<ul style="list-style-type: none"> <li>Ministry of Industries and Production</li> <li>Ministry of Finance</li> <li>Environment Protection Agency (EPA)</li> <li>Private sector associations</li> <li>Board of Investment (BOI)</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 3: Leveraging International Climate Finance and Cooperation</b>			
<p><b>Action 3.1:</b> Provide exporters financial assistance and support services to expand their reach into international markets for emissions reduction projects.</p>	<ul style="list-style-type: none"> <li>Ministry of Commerce</li> <li>Trade Development Authority of Pakistan (TDAP)</li> <li>State Bank of Pakistan</li> <li>International Trade Centre (ITC)</li> <li>Board of Investment (BOI)</li> </ul>	Long Term	<p>National Climate Change Policy, NDCs, and other key plans note the importance of mobilizing climate finance and cooperation in the industrial sector. Pakistan has initiated efforts through securing funding from key global partners such as GCF and promoting emission reduction projects such as Delta Blue Carbon in Sindh, however, scaling up requires the development of a conducive environment, research, and development, along with stakeholder engagement.</p>
<p><b>Action 3.2:</b> Foster partnerships with international research institutions and universities to conduct joint research and develop innovative solutions for net-zero industries in Pakistan.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC&amp;EC)</li> <li>Ministry of Science and Technology</li> <li>Ministry of Industries and Production</li> <li>Pakistan Council for Science and Technology (PCST)</li> <li>Higher Education Commission (HEC)</li> <li>Academia and research institutions in Pakistan</li> <li>International research institutions and universities (e.g., MIT, Imperial College London, DFKI)</li> <li>Private sector associations</li> <li>International development organizations (e.g., UNIDO, World Bank, Asian Development Bank)</li> </ul>	Long Term	
<p><b>Action 3.3:</b> Promote technology transfer and knowledge sharing between international and Pakistani companies to enhance the adoption of energy-efficient and low-emitting industrial practices.</p>	<ul style="list-style-type: none"> <li>Ministry of Industries and Production</li> <li>Ministry of Science and Technology</li> <li>Pakistan Council for Science and Technology (PCST)</li> <li>Private sector associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>International development organizations (e.g., World Bank, Asian Development Bank)</li> <li>Technology transfer and innovation centers</li> </ul>	Long Term	
<p><b>Action 3.4:</b> Engage in bilateral and multilateral cooperation with developed countries and partner nations to share best practices, exchange knowledge, and develop joint energy-efficient industrial initiatives with reduced emissions.</p>	<ul style="list-style-type: none"> <li>Ministry of Industries and Production</li> <li>Ministry of Foreign Affairs</li> <li>Ministry of Climate Change &amp; Environmental Coordination (MoCC&amp;EC)</li> <li>Multilateral cooperation with organizations like UNIDO, UN Environment Programme (UNEP), GEF</li> </ul>	Short Term	
<p><b>Action 3.5:</b> Establish a robust VCM framework aligned with international standards.</p> <ul style="list-style-type: none"> <li>- Develop clear and streamlined guidelines for project registration, verification, and certification within the VCM framework.</li> <li>- Facilitate the development and implementation of energy-efficient and low-emitting industrial sector projects.</li> <li>- Encourage collaboration and knowledge sharing among industry associations, government agencies, and carbon market experts.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Pakistan Environmental Protection Agency (EPA)</li> <li>Ministry of Energy (Power Division)</li> <li>Ministry of Finance</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>Industry associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>Financial institutions (e.g., banks, investment firms)</li> <li>Provincial Planning Departments</li> <li>Research institutions and universities</li> </ul>	Long Term	



Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Action 3.6:</b> Execute comprehensive donor mapping, specifically focusing on brick kilns, industrial GHG baseline development, implementing NEQS, and industrial emissions reduction projects to attract international climate finance.	<ul style="list-style-type: none"> <li>Ministry of Climate Change &amp; Environmental Coordination (MoCC &amp; EC)</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Ministry of Finance</li> <li>Ministry of Industries and Production</li> <li>Donor Organizations (World Bank, ADB, IsDB UNDP, UNEP, USAID, UKAID, UN-Women)</li> </ul>	Short Term	
<b>Agriculture Sector</b>			
<b>Outcome 1: Strengthening Climate-Sensitive Budgeting and Governance</b>			
<b>Action 1.1:</b> Explore the potential to alleviate government debt servicing through debt-for-nature swaps, where a debtor country can buy back part of its debt on more favorable terms and pay for conservation initiatives rather than debt service.	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>Ministry of Climate Change</li> <li>Ministry of National Food Security and Research</li> <li>Pakistan Agricultural Research Council (PARC)</li> <li>International financial institutions (e.g., World Bank, IMF)</li> <li>Conservation NGOs</li> </ul>	Short Term	Strengthening climate-sensitive budgeting and governance in the agriculture sector is included in Pakistan's National Climate Change Policy and NDCs. Stakeholder engagement and training is a key feature the country has been working on. SBP established Pakistan's first Green Banking Guidelines in 2017 which calls on banks to align their initiatives and operations with the issued guidelines. Work on the development of green taxonomy has also begun. Improvements in the framework of climate governance and projects are required along with updated and digitalized data to ensure agricultural growth.
<b>Action 1.2:</b> Improve the Agribusiness Support Fund (ASF) to integrate climate sensitivity by: <ul style="list-style-type: none"> <li>Increasing its scope to include financing for R&amp;D in Climate Smart Agriculture (CSA) techniques and renewable energy solutions for agriculture.</li> <li>Incorporating sustainability by encouraging farmers to adopt CSA practices that conserve water (including high-efficiency irrigation systems and drip irrigation), reduce pesticide use, and improve soil health.</li> <li>Implementing targeted strategies to reach farmers, such as simplified loan application processes, smaller loan amounts, and flexible repayment terms.</li> <li>Establishing a robust monitoring and evaluation framework to track its performance, assess its impact, and identify areas for improvement.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of National Food Security and Research</li> <li>State Bank of Pakistan</li> <li>National Bank of Pakistan</li> <li>Pakistan Agricultural Research Council (PARC)</li> <li>Provincial Agriculture Departments</li> </ul>	Long Term	
<b>Action 1.3:</b> Incorporate climate change risk assessments and vulnerability mapping into formulating agricultural policies, programs, and budgets, prioritizing CSA initiatives.	<ul style="list-style-type: none"> <li>Ministry of Climate Change</li> <li>Pakistan Meteorological Department (PMD)</li> <li>National Disaster Management Authority (NDMA)</li> <li>Pakistan Council of Research in Water Resources (PCRWR)</li> <li>Provincial Agriculture Departments</li> </ul>	Long Term	
<b>Action 1.4:</b> Develop a clear and transparent methodology for identifying, tracking, and evaluating climate-related expenditures in the agriculture sector.	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Ministry of National Food Security and Research</li> <li>Pakistan Agricultural Research Council (PARC)</li> <li>Auditor General of Pakistan</li> </ul>	Short Term	
<b>Action 1.5:</b> Establish mechanisms for public participation and stakeholder engagement in the climate-sensitive budgeting process to ensure that the allocation of resources aligns with community needs and priorities.	<ul style="list-style-type: none"> <li>Ministry of National Food Security and Research</li> <li>Provincial Agriculture Departments</li> <li>Farmers Association of Pakistan</li> <li>Civil society organizations</li> <li>Academia</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 1.6:</b> Implement regulations requiring banks to set targets to support climate change efforts in CSA (Climate-Smart Agriculture) projects.</p>	<ul style="list-style-type: none"> <li>• State Bank of Pakistan</li> <li>• Securities and Exchange Commission of Pakistan (SECP)</li> <li>• Pakistan Banking Association (PBA)</li> <li>• Commercial banks</li> </ul>	Short Term	
<p><b>Action 1.7:</b> Develop a guidebook for planning wings to train officials in filling out and appraising Climate Change components in the PC-I–PC-V formats for renewable energy in agriculture, drip irrigation systems, and other CSA initiatives for the agriculture sector.</p>	<ul style="list-style-type: none"> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Ministry of National Food Security and Research</li> <li>• Pakistan Council of Research in Water Resources (PCRWR)</li> <li>• Pakistan Agricultural Research Council (PARC)</li> <li>• Provincial Agriculture Departments</li> </ul>	Short Term	
<p><b>Action 1.8:</b> To reduce unnecessary delays in climate resilience projects, define a comprehensive framework that outlines roles, responsibilities, and communication protocols for federal and provincial entities involved in sustainable projects.</p>	<ul style="list-style-type: none"> <li>• Prime Minister's Office</li> <li>• Ministry of Climate Change and Environmental Coordination</li> <li>• Ministry of National Food Security and Research</li> <li>• National Climate Change Committee (NCCC)</li> <li>• Provincial Chief Secretaries</li> </ul>	Long Term	
<p><b>Action 1.9:</b> The State Bank of Pakistan can provide concessional funding organizations for high-priority CSA ventures.</p>	<ul style="list-style-type: none"> <li>• State Bank of Pakistan</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Agriculture Development Bank of Pakistan (ADBP)</li> </ul>	Short Term	
<p><b>Action 1.10:</b> Develop digital emission inventories for government and local NGOs to showcase climate finance opportunities.</p>	<ul style="list-style-type: none"> <li>• MoCC&amp;EC</li> <li>• Ministry of National Food Security and Research</li> <li>• Sustainable Development Policy Institute</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 2: Promotion of Public-Private Partnerships (PPP) for Climate Resilience</b>			
<p><b>Action 2.1:</b> Create a supportive policy environment that encourages private sector participation in climate-resilient agriculture projects, including:</p> <ul style="list-style-type: none"> <li>• Clear regulatory guidelines and incentives for CSA adoption.</li> <li>• Risk mitigation mechanisms to address concerns and attract investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• Ministry of Finance</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Private sector associations</li> <li>• Academia and research institutions</li> </ul>	Long Term	<p>PPP for Climate Resilience in the agriculture sector is a vital component of Pakistan's climate efforts. Pakistan has utilized key mechanisms such as a Standing Committee of Climate Change, a National Steering Committee, PM's Climate Change Committee, and a National Coordination Forum on Climate Change and has initiated efforts for carbon trading, research, and knowledge sharing, along with the development of a facilitative environment to foster further PPP ambition and action to boost climate resilience in the agricultural sector.</p>
<p><b>Action 2.2:</b> Address financing challenges for PPP projects by establishing:</p> <ul style="list-style-type: none"> <li>• Innovative financing mechanisms tailored to CSA and renewable energy projects.</li> <li>• Risk guarantees and blended finance solutions to mitigate investment risks.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• State Bank of Pakistan</li> <li>• National Bank of Pakistan</li> <li>• Pakistan Agricultural Research Council (PARC)</li> <li>• Private sector associations</li> <li>• Development finance institutions</li> </ul>	Long Term	
<p><b>Action 2.3:</b> To attract private sector investment, address financing challenges for PPP projects by establishing innovative financing mechanisms, providing risk guarantees and blended finance solutions</p>	<ul style="list-style-type: none"> <li>• Ministry of Finance</li> <li>• State Bank of Pakistan</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Agriculture Development Bank of Pakistan (ADBP)</li> <li>• Credit guarantee companies and schemes</li> </ul>	Long Term	
<p><b>Action 2.4:</b> Ensure transparency and accountability in PPP projects through open procurement processes, regular performance monitoring, and stakeholder engagement mechanisms.</p>	<ul style="list-style-type: none"> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Public Private Partnership Authority (PPPA)</li> <li>• Civil society organizations</li> </ul>	Long Term	
<p><b>Action 2.5:</b> Develop capacity within government agencies and private sector entities to effectively:</p> <ul style="list-style-type: none"> <li>• Structure, negotiate, and manage PPP projects in the agriculture sector.</li> <li>• Integrate CSA and climate resilience considerations into project planning and implementation.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Pakistan Agricultural Research Council (PARC)</li> <li>• Private Sector Associations</li> </ul>	Long Term	
<p><b>Action 2.6:</b> Establish robust monitoring and evaluation frameworks to assess the effectiveness of:</p> <ul style="list-style-type: none"> <li>• Climate-resilient agriculture PPPs, focusing on their impact on CSA adoption and climate resilience.</li> <li>• Identify areas for improvement and ensure project effectiveness in achieving climate goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination</li> <li>• Ministry of National Food Security and Research</li> <li>• National Development Planning Commission (NDPC)</li> <li>• Independent evaluation teams</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 2: Promotion of Public-Private Partnerships (PPP) for Climate Resilience</b>			
<p><b>Action 2.1:</b> Create a supportive policy environment that encourages private sector participation in climate-resilient agriculture projects, including:</p> <ul style="list-style-type: none"> <li>• Clear regulatory guidelines and incentives for CSA adoption.</li> <li>• Risk mitigation mechanisms to address concerns and attract investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• Ministry of Finance</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Private sector associations</li> <li>• Academia and research institutions</li> </ul>	Long Term	<p>PPP for Climate Resilience in the agriculture sector is a vital component of Pakistan's climate efforts. Pakistan has utilized key mechanisms such as a Standing Committee of Climate Change, a National Steering Committee, PM's Climate Change Committee, and a National Coordination Forum on Climate Change and has initiated efforts for carbon trading, research, and knowledge sharing, along with the development of a facilitative environment to foster further PPP ambition and action to boost climate resilience in the agricultural sector.</p>
<p><b>Action 2.2:</b> Address financing challenges for PPP projects by establishing:</p> <ul style="list-style-type: none"> <li>• Innovative financing mechanisms tailored to CSA and renewable energy projects.</li> <li>• Risk guarantees and blended finance solutions to mitigate investment risks.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• State Bank of Pakistan</li> <li>• National Bank of Pakistan</li> <li>• Pakistan Agricultural Research Council (PARC)</li> <li>• Private sector associations</li> <li>• Development finance institutions</li> </ul>	Long Term	
<p><b>Action 2.3:</b> To attract private sector investment, address financing challenges for PPP projects by establishing innovative financing mechanisms, providing risk guarantees and blended finance solutions</p>	<ul style="list-style-type: none"> <li>• Ministry of Finance</li> <li>• State Bank of Pakistan</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Agriculture Development Bank of Pakistan (ADBP)</li> <li>• Credit guarantee companies and schemes</li> </ul>	Long Term	
<p><b>Action 2.4:</b> Ensure transparency and accountability in PPP projects through open procurement processes, regular performance monitoring, and stakeholder engagement mechanisms.</p>	<ul style="list-style-type: none"> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Public Private Partnership Authority (PPPA)</li> <li>• Civil society organizations</li> </ul>	Long Term	
<p><b>Action 2.5:</b> Develop capacity within government agencies and private sector entities to effectively:</p> <ul style="list-style-type: none"> <li>• Structure, negotiate, and manage PPP projects in the agriculture sector.</li> <li>• Integrate CSA and climate resilience considerations into project planning and implementation.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Pakistan Agricultural Research Council (PARC)</li> <li>• Private Sector Associations</li> </ul>	Long Term	
<p><b>Action 2.6:</b> Establish robust monitoring and evaluation frameworks to assess the effectiveness of:</p> <ul style="list-style-type: none"> <li>• Climate-resilient agriculture PPPs, focusing on their impact on CSA adoption and climate resilience.</li> <li>• Identify areas for improvement and ensure project effectiveness in achieving climate goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination</li> <li>• Ministry of National Food Security and Research</li> <li>• National Development Planning Commission (NDPC)</li> <li>• Independent evaluation teams</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 2.7:</b> Encourage and support sustainable land management practices to enhance the resilience of agricultural ecosystems to climate change.</p>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• Provincial Agriculture Departments</li> </ul>	Long Term	
<p><b>Action 2.8:</b> Engage the private sector in carbon credits trading:</p> <ul style="list-style-type: none"> <li>• Promote the formation and active participation of industry associations in emissions reduction efforts by raising awareness, facilitating knowledge sharing, and coordinating collective action.</li> <li>• Create an enabling environment for private sector investment in emissions reduction projects, which includes providing access to finance, risk mitigation mechanisms, and targeted incentives for specific sectors.</li> <li>• Facilitate the adoption of innovative technologies and approaches for emissions reduction, involving supporting research and development, pilot projects, and technology transfer partnerships.</li> <li>• Encourage companies to adopt transparent sustainability reporting practices, including disclosure of their emissions footprints and carbon reduction strategies</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change</li> <li>• Pakistan Environmental Protection Agency (EPA)</li> <li>• Securities and Exchange Commission of Pakistan (SECP)</li> <li>• Pakistan Agricultural Research Council (PARC)</li> <li>• Pakistan Stock Exchange (PSE)</li> <li>• Private sector associations</li> <li>• International partners and entities</li> </ul>	Long Term	
<p><b>Action 2.9:</b> Create an enabling environment for private sector participation in drip irrigation systems, renewable energy, and CSA projects in agriculture by providing incentives, reducing regulatory hurdles, and facilitating access to finance.</p>	<ul style="list-style-type: none"> <li>• Ministry of National Food Security and Research</li> <li>• Ministry of Finance</li> <li>• Ministry of Industries and Production</li> <li>• Environment Protection Agency (EPA)</li> <li>• National Environmental Standards and Regulations Enforcement Agency (NESREA)</li> <li>• Pakistan Agricultural Research Council (PARC)</li> <li>• Private sector associations</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 3: Leveraging International Climate Finance and Cooperation</b>			National Climate Change Policy, NDCs, and other key plans note the importance of mobilizing climate finance in the agriculture sector. Pakistan has initiated efforts through securing funding from key global partners such as GCF and promoting emission reduction projects such as Delta Blue Carbon in Sindh, however, scaling up requires the development of a conducive environment, research, and development, along with stakeholder engagement.
<b>Action 3.1:</b> Strengthen engagement with international climate finance institutions, such as the Green Climate Fund (GCF), the Global Environment Facility (GEF), and the Adaptation Fund, to secure funding for climate-resilient agriculture projects in Pakistan, specifically focusing on CSA initiatives.	<ul style="list-style-type: none"> <li>Ministry of Climate Change</li> <li>Ministry of National Food Security and Research</li> <li>Economic Affairs Division (EAD)</li> <li>International climate finance institutions (e.g., GCF, GEF, FAO, World Bank, EU, IsDB, and KOICA)</li> </ul>	Long Term	
<b>Action 3.2:</b> Develop a pipeline of well-structured and bankable climate-resilient agriculture projects that attract international climate finance, prioritizing CSA initiatives and renewable energy solutions.	<ul style="list-style-type: none"> <li>Ministry of National Food Security and Research</li> <li>Pakistan Agricultural Research Council (PARC)</li> <li>Provincial Agriculture Departments</li> <li>Private sector entities</li> <li>Development finance institutions</li> <li>International climate finance consultants</li> </ul>	Short Term	
<b>Action 3.3:</b> Engage in bilateral and multilateral cooperation with developed countries and partner nations to share best practices, exchange knowledge, and develop joint climate-resilient agriculture initiatives, focusing on CSA implementation and technology transfer.	<ul style="list-style-type: none"> <li>Ministry of Foreign Affairs</li> <li>Ministry of Climate Change</li> <li>Ministry of National Food Security and Research</li> <li>International climate finance institutions (e.g., GCF, GEF, FAO, World Bank, EU, IsDB, and KOICA)</li> </ul>	Short Term	
<b>Action 3.4:</b> Foster partnerships with international research institutions and universities to conduct joint research and develop innovative solutions for climate-resilient agriculture in Pakistan focusing on CSA initiatives.	<ul style="list-style-type: none"> <li>Ministry of National Food Security and Research</li> <li>Pakistan Agricultural Research Council (PARC)</li> <li>Higher Education Commission (HEC)</li> <li>International research institutions and universities</li> </ul>	Short Term	
<b>Action 3.5:</b> Promote technology transfer and knowledge sharing between international and Pakistani companies to enhance the adoption of climate-smart agriculture practices, including drip irrigation technologies and high-efficiency irrigation systems.	<ul style="list-style-type: none"> <li>Ministry of Climate Change</li> <li>Ministry of National Food Security and Research</li> <li>Private sector associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>International climate finance institutions (e.g., GCF, GEF, FAO, World Bank, EU, IsDB, and KOICA) Technology transfer and innovation centers</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 3.6:</b> Promote Emissions Reduction projects for carbon credit trading:</p> <ul style="list-style-type: none"> <li>• Develop clear and transparent regulations for carbon credit trading, ensuring alignment with international standards, specifically in the context of CSA and renewable energy projects.</li> <li>• Offer financial incentives to encourage participation in emissions reduction projects, such as subsidies, tax breaks, or guaranteed offtake agreements for renewable energy.</li> <li>• Provide training and technical assistance to project developers and potential investors to enhance their understanding of carbon credit trading mechanisms and methodologies, focusing on agricultural applications.</li> <li>• Streamline the process for project registration and approval, reducing bureaucratic hurdles and supporting the implementation of emissions reduction initiatives in agriculture.</li> <li>• Coordinate with international partners and entities to facilitate the integration of carbon market mechanisms into Pakistan's financing framework, specifically for agriculture-related projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination</li> <li>• Pakistan Environmental Protection Agency (EPA)</li> <li>• Securities and Exchange Commission of Pakistan (SECP)</li> <li>• Pakistan Stock Exchange (PSE)</li> <li>• Private sector associations</li> <li>• International partners and entities</li> </ul>	<p>Long Term</p>	
<p><b>Action 3.7:</b> Execute comprehensive donor mapping, specifically focusing on CSA (Climate-Smart Agriculture), groundwater recharge, rainwater harvesting, preventing crop burning, producing biofuel crops, renewable energy, &amp; other carbon sequestration and emissions reduction projects to attract international climate finance.</p>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change &amp; Environmental Coordination (MoCC &amp; EC)</li> <li>• Ministry of Planning, Development, and Special Initiatives (MoPDSI)</li> <li>• Ministry of Finance</li> <li>• Ministry of National Food Security &amp; Research</li> <li>• Donor Organizations (World Bank, ADB, IsDB UNDP, UNEP, USAID, UKAID, UN-Women)</li> </ul>	<p>Short Term</p>	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Waste Sector</b>			
<b>Outcome 1: Strengthening Climate-Sensitive Budgeting and Governance</b>			
<p><b>Action 1.1:</b> Develop a guidebook for planning wings to train officials in filling out and appraising Climate Change components in the PC-I–PC-V formats for waste reduction projects and practices, specifically focusing on measuring and reporting GHG emissions.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change &amp; Environmental Coordination</li> <li>Ministry of Planning, Development, and Special Initiatives (MoPDSI)</li> <li>National Disaster Management Authority (NDMA)</li> <li>Provincial Local Governments and Rural Development</li> <li>Academia and research institutions</li> </ul>	Short Term	<p>Strengthening climate-sensitive budgeting and governance in the waste sector is included in Pakistan's National Climate Change Policy and NDCs. Stakeholder engagement and training is a key feature the country has been working on. SBP established Pakistan's first Green Banking Guidelines in 2017 which calls on banks to align their initiatives and operations with the issued guidelines. Work on the development of green taxonomy has also begun. Improvements in the framework of climate governance and projects are required along with updated data.</p>
<p><b>Action 1.2:</b> Update Policies to ensure set specific and measurable targets to support climate change efforts in waste management and reduction projects, including:</p> <ul style="list-style-type: none"> <li>Encouraging financing for waste reduction schemes and infrastructure development.</li> <li>Facilitating private sector participation in waste collection, treatment, and disposal services.</li> <li>Supporting the development of innovative waste-to-energy projects.</li> </ul>	<ul style="list-style-type: none"> <li>State Bank of Pakistan</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>Pakistan Banking Association (PBA)</li> <li>Commercial banks</li> <li>Provincial Local Governments and Rural Development</li> <li>WASA</li> <li>Ministry of Climate Change and Environmental Coordination</li> </ul>	Long Term	
<p><b>Action 1.3:</b> Develop a comprehensive national waste management strategy that explicitly integrates climate change considerations, including:</p> <ul style="list-style-type: none"> <li>Assessing climate change's impacts on waste generation, collection, treatment, and disposal.</li> <li>Establishing GHG emission baselines for major waste streams.</li> <li>Implementing an MRV mechanism to track progress in reducing emissions.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>Ministry of Environment</li> <li>Environmental Protection Agencies</li> <li>Provincial Environmental Protection Agencies (EPAs)</li> <li>Provincial Local Governments and Rural Development</li> <li>Academia and research institutions</li> <li>WASA</li> <li>Civil society organizations</li> </ul>	Long Term	
<p><b>Action 1.4:</b> Incorporate climate change resilience measures into waste management policies, such as:</p> <ul style="list-style-type: none"> <li>Promoting waste reduction at source through awareness campaigns and incentives.</li> <li>Encouraging composting and organic waste reduction initiatives.</li> <li>Facilitating recycling and the development of markets for recycled materials.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>Environmental Protection Agencies</li> <li>Provincial Environmental Protection Agencies (EPAs)</li> <li>Local governments</li> </ul>	Short Term	
<p><b>Action 1.5:</b> Conduct climate risk assessments for existing waste management infrastructure and facilities to identify potential vulnerabilities and prioritize adaptation measures.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>National Disaster Management Authority (NDMA)</li> <li>Pakistan Meteorological Department (PMD)</li> <li>Provincial Local Governments and Rural Development</li> <li>Engineering consulting firms</li> </ul>	Short Term	



Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 1.6:</b> Strengthen the capacity and awareness of government agencies responsible for waste management to integrate climate change considerations into their planning, budgeting, and implementation processes.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change</li> <li>Environmental Protection Agencies</li> <li>Provincial Environmental Protection Agencies (EPAs)</li> <li>Training institutions</li> <li>Provincial Local Governments and Rural Development</li> <li>Development partners</li> </ul>	Long Term	
<p><b>Action 1.7:</b> Enhance collaboration with NGOs, community organizations, and educational institutions to:</p> <ul style="list-style-type: none"> <li>Develop climate-sensitive waste management practices and promote sustainable waste management behaviors.</li> <li>Raise awareness about the importance of waste reduction, reuse, recycling, and composting.</li> <li>Facilitate the adoption of 4R practices in households, businesses, and communities.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>Environmental Protection Agencies</li> <li>Provincial Local Governments and Rural Development</li> <li>WASA</li> <li>Environmental NGOs (e.g., Waste Concern, Clean Green Pakistan)</li> <li>Research institutions</li> </ul>	Short Term	
<p><b>Action 1.8:</b> Establish robust monitoring and evaluation frameworks to track the progress and impact of climate-sensitive waste management initiatives.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>Environmental Protection Agencies</li> <li>Independent evaluation organizations</li> </ul>	Short Term	
<p><b>Action 1.9:</b> Share best practices and lessons learned with other countries through:</p> <ul style="list-style-type: none"> <li>Participating in international forums and conferences on climate-resilient waste management.</li> <li>Establishing a working group with neighboring countries to collaborate on research, technology transfer, and joint projects.</li> <li>Disseminating information and case studies through online platforms and knowledge-sharing networks.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>Ministry of Foreign Affairs</li> <li>International organizations (e.g., UN Environment Programme, Clean Air Asia)</li> <li>Bilateral and multilateral partners</li> </ul>	Long Term	
<p><b>Action 1.10:</b> Enhance waste collection and transportation systems to:</p> <ul style="list-style-type: none"> <li>Improve efficiency and reduce emissions from waste collection vehicles.</li> <li>Expand collection services to underserved areas.</li> <li>Support the development of sustainable waste transportation infrastructure, such as waste-to-energy facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>Municipal corporations</li> <li>Waste management companies.</li> <li>Private sector</li> <li>Provincial Local Governments and Rural Development</li> </ul>	Short Term	
<p><b>Action 1.11:</b> Develop digital emission inventories for government and local NGOs to showcase climate finance opportunities.</p>	<ul style="list-style-type: none"> <li>MoCC&amp;EC</li> <li>Sustainable Development Policy Institute</li> <li>WASA</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 2: Promotion of Public-Private Partnerships (PPP) for Climate Resilience</b>			PPP for Climate Resilience in the waste sector is a vital component of Pakistan's climate efforts. Pakistan has utilized key mechanisms such as a Standing Committee of Climate Change, a National Steering Committee, PM's Climate Change Committee, and a National Coordination Forum on Climate Change and has initiated efforts for carbon trading, research, and knowledge sharing, along with the development of a facilitative environment to foster further PPP ambition and action.
<b>Action 2.1:</b> Ensure transparency and accountability in PPP projects through open procurement processes, regular performance monitoring, and stakeholder engagement mechanisms.	<ul style="list-style-type: none"> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Public Private Partnership Authority (PPPA)</li> <li>Civil society organizations</li> <li>Independent monitoring agencies</li> </ul>	Long Term	
<b>Activity 2.2:</b> Address financing challenges for PPP projects by establishing: <ul style="list-style-type: none"> <li>Innovative financing mechanisms, such as blended finance and green bonds, attract private investment.</li> <li>Risk guarantees and insurance schemes to mitigate financial risks for private sector partners.</li> <li>An enabling environment that facilitates the participation of small and medium-sized enterprises (SMEs) in waste management PPPs.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>State Bank of Pakistan</li> <li>Alternative Energy Development Board (AEDB)</li> <li>Development finance institutions</li> <li>Private sector investors</li> </ul>	Short Term	
<b>Activity 2.3:</b> Establish robust monitoring and evaluation frameworks to assess the effectiveness of climate-resilient waste management PPPs, identify areas for improvement, and inform future projects.	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination</li> <li>Environmental Protection Agencies</li> <li>Public Private Partnership Authority</li> <li>Independent evaluation teams</li> <li>WASA</li> </ul>	Long Term	
<b>Action 2.4:</b> Establish transparent and competitive bidding processes by: <ul style="list-style-type: none"> <li>Clearly defining project requirements and selection criteria.</li> <li>Providing fair and equal opportunities for all potential bidders.</li> <li>Implementing a transparent evaluation process to select qualified private sector partners.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change</li> <li>Environmental Protection Agencies</li> <li>Provincial Waste Departments</li> <li>Independent monitoring agencies</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 3: Leveraging International Climate Finance and Cooperation</b>			
<p><b>Action 3.1:</b> Strengthen engagement with international climate finance institutions to:</p> <ul style="list-style-type: none"> <li>Secure funding for climate-resilient waste management projects in Pakistan.</li> <li>Access technical assistance and capacity-building support.</li> <li>Explore opportunities for co-financing with international partners.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Provincial Environmental Protection Agencies (EPAs)</li> <li>Economic Affairs Division (EAD)</li> <li>National Implementing Entities (NIEs)</li> <li>International climate finance institutions (e.g., GCF, GEF, Adaptation Fund)</li> </ul>	Long Term	National Climate Change Policy, NDCs, and other key plans note the importance of mobilizing climate finance and cooperation in the waste sector, however, a comprehensive waste management system is lacking. Hence, to leverage international climate finance there is a need to develop a conducive environment and undertake research and development, along with stakeholder engagement.
<p><b>Action 3.2:</b> Develop a pipeline of well-structured and bankable climate-resilient waste management projects to attract international climate finance, including:</p> <ul style="list-style-type: none"> <li>Projects that focus on waste reduction, reuse, recycling, and composting (4R).</li> <li>Projects that promote the development of innovative waste-to-energy technologies.</li> <li>Projects that address the unique challenges of waste management in rural and underserved areas.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Provincial Environmental Protection Agencies (EPAs)</li> <li>Private sector entities</li> <li>Development finance institutions</li> <li>International climate finance consultants</li> </ul>	Short Term	
<p><b>Action 3.3:</b> Participate in international forums, conferences, and workshops on climate-resilient waste management to:</p> <ul style="list-style-type: none"> <li>Learn from global experiences and best practices.</li> <li>Identify potential collaboration opportunities with international partners.</li> <li>Showcase Pakistan's progress and achievements in climate-resilient waste management.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Ministry of Foreign Affairs</li> <li>International organizations and initiatives (e.g., UN Environment Programme, Global Alliance for Incinerator Alternatives)</li> </ul>	Short Term	
<p><b>Action 3.4:</b> Develop partnerships with international research institutions and universities to:</p> <ul style="list-style-type: none"> <li>Conduct joint research on climate-resilient waste management technologies and solutions.</li> <li>Facilitate technology transfer and knowledge exchange between Pakistan and other countries.</li> <li>Build capacity within Pakistani institutions to implement and manage climate-resilient waste management projects.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Pakistan Council of Scientific and Industrial Research (PCSIR)</li> <li>Higher Education Commission (HEC)</li> <li>International research institutions and universities (e.g., universities with expertise in waste-to-energy technologies, and circular economy)</li> </ul>	Long Term	
<p><b>Action 3.5:</b> Enhance the capacity of government agencies and ministries involved in climate-resilient waste management to effectively manage international climate finance and implement waste management projects.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Ministry of Finance</li> <li>Economic Affairs Division (EAD)</li> <li>International training institutions</li> <li>Development partners</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 3.6:</b> Develop a robust monitoring and evaluation framework to track the progress and impact of climate-resilient waste management projects funded by international climate finance, focusing on:</p> <ul style="list-style-type: none"> <li>• Meeting project objectives and targets.</li> <li>• Achieving greenhouse gas emission reductions.</li> <li>• Delivering environmental, social, and economic benefits.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Independent evaluation teams</li> </ul>	Long Term	
<p><b>Action 3.7:</b> Promote technology transfer and knowledge sharing between international and Pakistani companies to enhance the adoption of climate-sensitive waste management practices, including:</p> <ul style="list-style-type: none"> <li>• Facilitating partnerships and joint ventures between Pakistani and international companies.</li> <li>• Organizing training and workshops on climate-sensitive waste management technologies.</li> <li>• Supporting the development of local capacity to manufacture and maintain waste management equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• United Nations Industrial Development Organization (UNIDO)</li> <li>• Private sector associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>• International development organizations (e.g., World Bank, Asian Development Bank)</li> <li>• Technology transfer and innovation centers</li> </ul>	Long Term	
<p><b>Action 3.8:</b> Execute comprehensive donor mapping, specifically focusing on 4R Waste management, wastelands, energy from landfills, and other emissions reduction projects to attract international climate finance.</p>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change &amp; Environmental Coordination (MoCC &amp; EC)</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Ministry of Finance</li> <li>• Donor Organizations (World Bank, ADB, IsDB UNDP, UNEP, USAID, UKAID, UN-Women)</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>LULUCF (Land-Use, Land-Use Change, and Forestry)</b>			
<b>Outcome 1: Strengthening Climate-Sensitive Budgeting and Governance</b>			
<p><b>Action 1.1:</b> Develop climate-sensitive guidelines and training materials for government officials involved in budgeting processes, incorporating data-driven decision-making for LULUCF projects, including:</p> <ul style="list-style-type: none"> <li>Integrating climate change mitigation and adaptation potential into project evaluations.</li> <li>Prioritizing funding for projects that promote eco-tourism, afforestation, wildlife preservation, mangrove restoration, and biodiversity conservation.</li> <li>Establishing clear metrics to track the progress and impact of LULUCF projects on climate resilience.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC&amp;EC)</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>National Forest Programme Facility (NFPF)</li> <li>Pakistan Forest Institute (PFI)</li> <li>Provincial Forest Departments</li> <li>Academia and research institutions (e.g., Pakistan Forest Institute)</li> </ul>	Short Term	Strengthening climate-sensitive budgeting and governance is included in Pakistan's National Climate Change Policy and NDCs. Stakeholder engagement and training is a key feature the country has been working on. SBP established Pakistan's first Green Banking Guidelines in 2017 and development of the green taxonomy has begun. Improvements in the framework of climate governance and projects are required along with updated and digitalized data to ensure sustainable and climate-resilient LULUCF sector operations.
<p><b>Action 1.2:</b> Develop a guidebook for planning wings to train officials in filling out and appraising Climate Change components in the PC-I–PC-V formats for LULUCF projects, focusing on:</p> <ul style="list-style-type: none"> <li>Quantifying carbon sequestration potential and greenhouse gas emission reductions.</li> <li>Integrating climate-resilient strategies into project design, such as species selection based on climate adaptability and drought tolerance.</li> <li>Implementing monitoring and evaluation frameworks to track progress in achieving project objectives, including tree planting targets, survival rates, and carbon sequestration.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>National Forest Programme Facility (NFPF)</li> <li>Pakistan Forest Institute (PFI)</li> <li>Provincial Forest Departments</li> <li>Independent experts</li> </ul>	Short Term	
<p><b>Action 1.3:</b> Establish a green taxonomy, a classification system to identify sustainable LULUCF projects and help investors make informed and sustainable investment decisions, including:</p> <ul style="list-style-type: none"> <li>Defining clear criteria for sustainable land-use practices, such as ecological restoration, biodiversity conservation, and community engagement.</li> <li>Developing a transparent and reliable system for verifying and certifying LULUCF projects as compliant with the green taxonomy.</li> <li>Promoting the use of the green taxonomy by financial institutions and investors to guide their investment decisions towards climate-resilient LULUCF projects.</li> </ul>	<ul style="list-style-type: none"> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>State Bank of Pakistan</li> <li>Ministry of Finance</li> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Pakistan Forest Institute (PFI)</li> <li>Private sector stakeholders</li> <li>Academia and research institutions</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 1.4:</b> To reduce unnecessary delays in climate resilience projects, define a comprehensive and data-driven framework that outlines roles, responsibilities, and communication protocols for federal and provincial entities involved in sustainable projects.</p>	<ul style="list-style-type: none"> <li>• Prime Minister's Office</li> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• National Climate Change Committee (NCCC)</li> <li>• Provincial Chief Secretaries</li> </ul>	Short Term	
<p><b>Action 1.5:</b> Provide concessional funding and climate adaptation finance to organizations for high-priority Land-Use and forestry ventures, including:</p> <ul style="list-style-type: none"> <li>• Supporting the cultivation of high-value medicinal plants on degraded lands to promote economic opportunities and ecosystem restoration.</li> <li>• Provide Payments to landowners for managing their land to provide some sort of ecological service. (Payment for Ecosystem Services (PES))</li> <li>• Funding projects that focus on ecosystem restoration, such as mangrove rehabilitation and soil conservation initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>• State Bank of Pakistan</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Agriculture Development Bank of Pakistan (ADBP)</li> <li>• Commercial banks</li> </ul>	Short Term	
<p><b>Action 1.6:</b> Develop digital emission inventories for government and local NGOs to showcase climate finance opportunities.</p>	<ul style="list-style-type: none"> <li>• MoCC&amp;EC (Forest Wing)</li> <li>• Sustainable Development Policy Institute</li> </ul>	Short Term	
<p><b>Outcome 2: Promotion of Public-Private Partnerships (PPP) for Climate Resilience</b></p>			
<p><b>Action 2.1:</b> Create a conducive policy environment encouraging private sector participation in climate-resilient LULUCF projects, including:</p> <ul style="list-style-type: none"> <li>• Implementing clear regulatory guidelines and incentives for private investment in eco-tourism infrastructure, sustainable forest management, and wildlife conservation initiatives.</li> <li>• Providing risk mitigation mechanisms to protect private investors from potential losses associated with climate change impacts.</li> <li>• Offering tax breaks and other financial incentives for companies that adopt sustainable land-use practices and cultivate medicinal plants.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Ministry of Finance</li> <li>• National Forest Programme Facility (NFPF)</li> <li>• Provincial Forest Departments</li> <li>• Private sector associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> </ul>	Long Term	<p>NCCP, NDCs, and NAP call for PPP partnerships and collaboration in the LULUCF sector. Pakistan has initiated efforts at both national and federal levels; however, the formation of an official platform or committee is lacking. Additionally, data-sharing mechanisms are insufficient due to improper or outdated data collection methods and a lack of digitalization, hindering access to updated information.</p>

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 2.2:</b> Develop capacity within government agencies and private sector entities to effectively:</p> <ul style="list-style-type: none"> <li>Structure, negotiate, and manage PPP projects in the LULUCF sector, focusing on climate resilience considerations.</li> <li>Utilize GIS mapping technology for efficient tree marking and counting, monitoring forest health, and planning restoration projects.</li> <li>Implement best practices for managing public-private partnerships to ensure transparency, accountability, and successful project outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Forest Programme Facility (NFPP)</li> <li>Provincial Forest Departments</li> <li>Pakistan Institute of Development Economics (PIDE)</li> <li>Lahore University of Management Sciences (LUMS)</li> <li>Private sector associations</li> </ul>	Long Term	
<p><b>Action 2.3:</b> Ensure transparency and accountability in PPP projects through open procurement processes, regular performance monitoring, and stakeholder engagement mechanisms.</p>	<ul style="list-style-type: none"> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>Public Private Partnership Authority (PPPA)</li> <li>Anti-Corruption Commission</li> <li>Civil society organizations</li> </ul>	Long Term	
<p><b>Action 2.4:</b> Address financing challenges for PPP projects by establishing:</p> <ul style="list-style-type: none"> <li>Innovative financing mechanisms, such as blended finance, green bonds, and green microfinance attract private investment.</li> <li>Risk guarantees and insurance schemes to mitigate financial risks for private sector partners.</li> <li>An enabling environment that facilitates the participation of small and medium-sized enterprises (SMEs) in LULUCF PPPs.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>State Bank of Pakistan</li> <li>Alternative Energy Development Board (AEDB)</li> <li>Sustainable Energy Fund (SEF)</li> <li>Credit guarantee companies and schemes.</li> <li>Development finance institutions</li> <li>Private sector investors</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 3: Leveraging International Climate Finance and Cooperation</b>			
<p><b>Action 3.1:</b> Strengthen engagement with international climate finance institutions to:</p> <ul style="list-style-type: none"> <li>Secure funding for climate-resilient LULUCF projects in Pakistan, with a focus on ecosystem restoration initiatives.</li> <li>Access technical assistance and capacity-building support to enhance Pakistan's ability to implement LULUCF projects effectively.</li> <li>Explore opportunities for co-financing with international partners to maximize the impact of climate finance.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Forest Programme Facility (NFPF)</li> <li>Economic Affairs Division (EAD)</li> <li>International climate finance institutions (e.g., GCF, GEF, Adaptation Fund)</li> </ul>	Long Term	National Climate Change Policy, NDCs, and other key plans note the importance of mobilizing climate finance and cooperation for the LULUCF sector. Pakistan has initiated efforts by securing funding from key global partners such as GCF and promoting emission reduction projects such as Delta Blue Carbon in Sindh, however, scaling up requires the development of a conducive environment, research, and development, along with stakeholder engagement.
<p><b>Action 3.2:</b> Develop a pipeline of well-structured and bankable climate-resilient LULUCF projects to attract international climate finance, including:</p> <ul style="list-style-type: none"> <li>Projects that promote eco-tourism and sustainable forest management practices.</li> <li>Projects that focus on afforestation and mangrove restoration to enhance carbon sequestration and protect coastal communities.</li> <li>Projects that promote biodiversity conservation and protect endangered species.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Forest Programme Facility (NFPF)</li> <li>Provincial Forest Departments</li> <li>Private sector entities</li> <li>Development finance institutions</li> <li>International climate finance consultants</li> </ul>	Short Term	
<p><b>Action 3.3:</b> Engage in bilateral and multilateral cooperation with developed countries and partner nations to share best practices, exchange knowledge, and develop sustainable forest management, and ecosystem restoration.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Ministry of Foreign Affairs</li> <li>Food and Agriculture Organization of the United Nations (FAO)</li> <li>Climate Investment Funds (CIF)</li> </ul>	Long Term	
<p><b>Action 3.4:</b> Partner with international research institutions and universities to:</p> <ul style="list-style-type: none"> <li>Conduct joint research on climate-resilient LULUCF technologies and solutions, such as drought-resistant tree species and innovative methods for cultivating medicinal plants.</li> <li>Facilitate technology transfer and knowledge exchange between Pakistan and other countries.</li> <li>Build capacity within Pakistani institutions to conduct research and develop innovative solutions for climate-resilient LULUCF.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Pakistan Council of Scientific and Industrial Research (PCSIR)</li> <li>Higher Education Commission (HEC)</li> <li>Pakistan Forest Institute (PFI)</li> <li>International research institutions and universities (e.g., CGIAR centers, universities with expertise in climate-resilient forestry and land use)</li> </ul>	Long Term	



Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 3.5:</b> Promote technology transfer and knowledge sharing between international and Pakistani companies to:</p> <ul style="list-style-type: none"> <li>Enhance the adoption of innovative technologies for LULUCF projects, such as GIS mapping for forest management and drone-based monitoring of ecosystem restoration initiatives.</li> <li>Develop local capacity to manufacture and maintain equipment used in LULUCF projects.</li> <li>Facilitate collaboration between Pakistani and international companies to accelerate the development and implementation of climate-resilient LULUCF solutions.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>United Nations Industrial Development Organization (UNIDO)</li> <li>Private sector associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>International development organizations (e.g., World Bank, Asian Development Bank)</li> <li>Technology transfer and innovation centers</li> </ul>	Long Term	
<p><b>Action 3.6:</b> Facilitate Pakistan's participation in carbon markets by:</p> <ul style="list-style-type: none"> <li>Developing forest carbon sequestration projects that meet international standards.</li> <li>Measuring and verifying carbon credits generated by LULUCF projects.</li> <li>Accessing international carbon trading mechanisms to generate additional revenue for sustainable land-use projects.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Pakistan Environmental Protection Agency (EPA)</li> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>Pakistan Stock Exchange (PSE)</li> <li>Private sector associations</li> <li>International partners and entities</li> </ul>	Long Term	
<p><b>Action 3.7:</b> Develop a national carbon accounting framework for forest carbon sequestration projects to:</p> <ul style="list-style-type: none"> <li>Establish a robust system for tracking and reporting carbon emissions reductions from LULUCF projects.</li> <li>Ensure transparency and accountability in carbon accounting practices.</li> <li>Maximize the potential of LULUCF projects to contribute to Pakistan's national climate goals.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Forest Programme Facility (NFPF)</li> <li>International organizations with expertise in carbon accounting (e.g., Forest Carbon Partnership Facility, UN-REDD)</li> </ul>	Long Term	
<p><b>Action 3.5:</b> Execute comprehensive donor mapping, specifically focusing on Afforestation, GHG Emission Inventor, MRVs, and other emissions reduction projects to attract international climate finance.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change &amp; Environmental Coordination (MoCC &amp; EC)</li> <li>Ministry of Planning, Development, and Special Initiatives (MoPDSI)</li> <li>Ministry of Finance (MoF)</li> <li>Donor Organizations (World Bank, ADB, IsDB UNDP, UNEP, USAID, UKAID, UN-Women)</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Disaster Preparedness and Health</b>			
<b>Outcome 1: Strengthening Climate-Sensitive Budgeting and Governance</b>			
<p><b>Action 1.1:</b> Develop climate-sensitive guidelines and training materials for government officials involved in budgeting processes, incorporating data-driven decision-making and behavior management strategies for improved disaster preparedness and health budgets.</p> <ul style="list-style-type: none"> <li>Allocate resources for the development and implementation of digital early warning systems and advanced telemetry databases.</li> <li>Include programs promoting citizen awareness and behavior change in response to climate-related hazards.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Health</li> <li>Provincial Health Departments</li> <li>Academia and research institutions</li> </ul>	Short Term	National Climate Change Policy insists on ensuring that sufficient funds are always available in National Disaster Risk Management Fund (NDRMF) to cater to emergencies caused by natural disasters and for implementing programmes and projects to reduce the risks from natural disasters. Thus, climate-sensitive budgeting can help in managing the funding for NDRMF.
<p><b>Action 1.2:</b> Develop a guidebook for planning wings to train officials in filling out and appraising Climate Change components in the PC-I–PC-V formats for Disaster Preparedness and Health Projects, including:</p> <ul style="list-style-type: none"> <li>Integrating climate risk assessments and disaster preparedness planning into project design.</li> <li>Incorporating digital technologies for efficient disaster management and response, such as digital advanced telemetry systems and GIS mapping.</li> <li>Aligning projects with the National Disaster Management Program for a comprehensive and coordinated approach.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Health</li> <li>Provincial Health Departments</li> <li>Independent experts</li> </ul>	Short Term	
<p><b>Action 1.3:</b> Establish a green taxonomy, a classification system to identify sustainable disaster preparedness and health projects and help investors make informed and sustainable investment decisions, including:</p> <ul style="list-style-type: none"> <li>Defining criteria for projects that prioritize digitalization and technology, behavior management strategies, and adherence to the Disaster Management Program.</li> <li>Developing a transparent system for verifying and certifying projects as compliant with the green taxonomy.</li> <li>Encouraging financial institutions and investors to prioritize green projects for sustainable disaster preparedness and health outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>Securities and Exchange Commission of Pakistan (SECP)</li> <li>State Bank of Pakistan</li> <li>Ministry of Finance</li> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Private sector stakeholders</li> <li>Academia and research institutions</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 1.4:</b> Define a comprehensive framework that outlines roles, responsibilities, and communication protocols for federal and provincial entities involved in sustainable projects, including:</p> <ul style="list-style-type: none"> <li>Establishing clear timelines for project approval and implementation.</li> <li>Streamlining bureaucratic processes to reduce unnecessary delays.</li> <li>Encouraging inter-agency collaboration and knowledge sharing, particularly for flood relief efforts.</li> </ul>	<ul style="list-style-type: none"> <li>Prime Minister's Office</li> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Health</li> <li>Provincial Chief Secretaries</li> </ul>	Short Term	
<p><b>Action 1.5:</b> The State Bank of Pakistan can provide concessional funding to organizations for high-priority disaster preparedness and health projects, including:</p> <ul style="list-style-type: none"> <li>Supporting the development and implementation of sustainable and holistic health management programs through public-private partnerships.</li> <li>Provide Insurance products such as Climate Risk Insurance that protect against damage from climate-related risks.</li> <li>Funding projects that promote innovative technologies for disaster preparedness and response, such as digital health platforms and telemedicine services.</li> </ul>	<ul style="list-style-type: none"> <li>State Bank of Pakistan</li> <li>Ministry of Finance</li> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Private sector stakeholders</li> <li>Academia and research institutions</li> </ul>	Short Term	
<p><b>Action 1.6:</b> Facilitate the deployment of healthcare workers to underserved areas particularly vulnerable to climate change impacts, including:</p> <ul style="list-style-type: none"> <li>Developing targeted programs to attract and retain healthcare professionals in remote areas.</li> <li>Investing in infrastructure development and capacity building for healthcare facilities in vulnerable regions.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Health</li> <li>Provincial Health Departments</li> <li>Pakistan Medical and Dental Council (PMDC)</li> <li>World Health Organization (WHO)</li> <li>International NGOs</li> </ul>	Short Term	
<p><b>Action 1.7:</b> Strengthen climate risk assessment capacities to identify and prioritize areas most vulnerable to climate change impacts, utilizing:</p> <ul style="list-style-type: none"> <li>Digital advanced telemetry systems and GIS mapping to analyze climate data and assess risk.</li> <li>Engaging local communities and stakeholders in the risk assessment process.</li> <li>Regularly updating risk assessments based on evolving climate trends and disaster patterns.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Health</li> <li>Provincial Health Departments</li> <li>Pakistan Medical and Dental Council (PMDC)</li> <li>World Health Organization (WHO)</li> <li>International NGOs</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 1.8:</b> Improve collection and analysis of climate data, including historical weather patterns, projected climate trends, and disaster risk data, through:</p> <ul style="list-style-type: none"> <li>Investing in modern data collection technologies, including weather stations and satellite imagery.</li> <li>Developing robust data management systems for efficient storage, analysis, and dissemination of climate data.</li> <li>Making climate data readily available to researchers, policymakers, and the public.</li> </ul>	<ul style="list-style-type: none"> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>Pakistan Meteorological Department (PMD)</li> <li>Academia and research institutions</li> </ul>	Long Term	
<p><b>Action 1.9:</b> Use climate data and risk assessments to inform budget allocation decisions and prioritize climate-resilient investments, including:</p> <ul style="list-style-type: none"> <li>Targeting funding towards vulnerable regions and populations.</li> <li>Investing in digital infrastructure and technologies for early warning systems and disaster preparedness.</li> <li>Supporting behavior change programs to enhance community resilience to climate change impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Finance</li> <li>Ministry of Planning, Development, and Special Initiatives</li> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Health</li> <li>Provincial governments</li> </ul>	Short Term	
<p><b>Action 1.10:</b> Develop digital emission inventories for government and local NGOs to showcase climate finance opportunities.</p>	<ul style="list-style-type: none"> <li>MoCC&amp;EC</li> <li>Ministry of Health</li> <li>Sustainable Development Policy Institute</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 2: Promotion of Public-Private Partnerships (PPP) for Climate Resilience</b>			
<p><b>Action 2.1:</b> Create a conducive policy environment encouraging private sector participation in disaster-resilient projects, including:</p> <ul style="list-style-type: none"> <li>• Implementing clear regulatory guidelines and incentives for private investment in digital health platforms, telemedicine services, and sustainable health management programs.</li> <li>• Providing risk mitigation mechanisms, such as insurance schemes, to protect private investors from potential losses associated with climate-related disasters.</li> <li>• Streamlining approval processes for PPP projects to facilitate faster implementation.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Ministry of Health</li> <li>• Private sector associations</li> <li>• Development partners</li> </ul>	Long Term	
<p><b>Action 2.2:</b> Develop capacity within government agencies and private sector entities to effectively:</p> <ul style="list-style-type: none"> <li>• Structure, negotiate, and manage PPP projects in the health sector, focusing on climate resilience considerations and alignment with the National Disaster Management Program.</li> <li>• Utilize digital technologies for efficient project management and monitoring, such as cloud-based platforms and data dashboards.</li> <li>• Implement best practices for managing public-private partnerships to ensure transparency, accountability, and successful project outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Ministry of Health</li> <li>• Private sector associations</li> <li>• Training institutions</li> </ul>	Long Term	
<p><b>Action 2.3:</b> Ensure transparency and accountability in PPP projects through:</p> <ul style="list-style-type: none"> <li>• Open procurement processes that allow fair competition among potential partners.</li> <li>• Regular performance monitoring to track progress and identify areas for improvement.</li> <li>• Stakeholder engagement mechanisms to ensure community participation and address potential concerns.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Public Private Partnership Authority (PPPA)</li> <li>• Anti-Corruption Commission</li> <li>• Civil society organizations</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 2.4:</b> Address financing challenges for PPP projects by establishing:</p> <ul style="list-style-type: none"> <li>• Innovative financing mechanisms, such as catastrophe bonds, resilience bonds, blended finance, and green bonds, attract private investment.</li> <li>• Risk guarantees and insurance schemes to mitigate financial risks for private sector partners.</li> <li>• An enabling environment that facilitates the participation of small and medium-sized enterprises (SMEs) in health-related PPPs.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Finance</li> <li>• State Bank of Pakistan</li> <li>• Alternative Energy Development Board (AEDB)</li> <li>• Sustainable Energy Fund (SEF)</li> <li>• Credit guarantee companies and schemes.</li> <li>• Development finance institutions</li> <li>• Private sector investors</li> </ul>	Short Term	
<p><b>Action 2.5:</b> Ensure that healthcare facilities are adequately prepared for extreme weather events, such as floods and earthquakes, through:</p> <ul style="list-style-type: none"> <li>• Upgrading infrastructure and equipment to withstand climate-related hazards.</li> <li>• Implementing digital solutions for data-driven decision-making and resource allocation during emergencies.</li> <li>• Training healthcare workers in disaster preparedness and response protocols.</li> <li>• Establishing robust emergency response plans and communication protocols.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Health</li> <li>• Provincial Health Departments</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Healthcare professionals</li> <li>• Private sector</li> </ul>	Short Term	
<p><b>Action 2.6:</b> Improve surveillance systems and data collection mechanisms to track and monitor the impact of climate change on public health, utilizing:</p> <ul style="list-style-type: none"> <li>- Digital platforms for real-time data collection and analysis.</li> <li>- Advanced forecasting models to predict potential health risks associated with climate change.</li> <li>- Early warning systems to alert communities about potential outbreaks of climate-sensitive diseases.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Health</li> <li>• Provincial Health Departments</li> <li>• National Institute of Health (NIH)</li> <li>• Academia and research institutions</li> </ul>	Long Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 3: Leveraging International Climate Finance and Cooperation</b>			National Climate Change Policy insists on allocating adequate financial and other resources to implement the National Disaster Risk Management Framework formulated by NDMA. <sup>85</sup>
<p><b>Action 3.1:</b> Strengthen engagement with international climate finance institutions, such as the Green Climate Fund (GCF), the Global Environment Facility (GEF), and the Adaptation Fund, to secure funding for disaster preparedness and health projects in Pakistan.</p>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Health</li> <li>Economic Affairs Division (EAD)</li> <li>National Implementing Entities (NIEs)</li> <li>International climate finance institutions (e.g., GCF, GEF, Adaptation Fund)</li> </ul>	Long Term	
<p><b>Action 3.2:</b> Develop a pipeline of well-structured and bankable climate-resilient health projects to attract international climate finance, including:</p> <ul style="list-style-type: none"> <li>Projects that focus on developing and deploying digital health technologies for early warning, disease surveillance, and remote healthcare services.</li> <li>Projects that promote climate-resilient infrastructure development in the health sector.</li> <li>Projects that support the training and capacity building of healthcare workers to address climate-related health challenges.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Health</li> <li>Provincial governments</li> <li>Private sector entities</li> <li>Development finance institutions</li> <li>International climate finance consultants</li> </ul>	Short Term	
<p><b>Action 3.3:</b> Engage in bilateral and multilateral cooperation with developed countries and partner nations to:</p> <ul style="list-style-type: none"> <li>Share best practices and lessons learned in implementing climate-resilient health projects and disaster management programs.</li> <li>Exchange knowledge and expertise in areas such as digital health, climate-resilient infrastructure, and disaster preparedness.</li> <li>Develop joint initiatives to address transboundary health risks and promote regional cooperation on climate change.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>National Disaster Management Authority (NDMA)</li> <li>Ministry of Health</li> <li>Ministry of Foreign Affairs</li> <li>Developed countries and partner nations.</li> <li>International organizations (e.g., World Bank, Asian Development Bank, UN agencies)</li> </ul>	Long Term	

85. <https://mocc.gov.pk/SitelImage/Policy/NCCP%20Report.pdf>

Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 3.4:</b> Foster partnerships with international research institutions and universities to:</p> <ul style="list-style-type: none"> <li>• Conduct joint research on innovative digital solutions for climate-resilient healthcare and disaster preparedness.</li> <li>• Develop new technologies and tools for improving the effectiveness of disaster response and public health interventions.</li> <li>• Share research findings and best practices with stakeholders across the globe.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Ministry of Health</li> <li>• Pakistan Council of Scientific and Industrial Research (PCSIR)</li> <li>• Higher Education Commission (HEC)</li> <li>• International research institutions and universities (e.g., universities with expertise in public health resilience, and climate-related disease prevention)</li> </ul>	Long Term	
<p><b>Action 3.5:</b> Promote technology transfer and knowledge sharing between international and Pakistani companies to enhance the adoption of climate-resilient healthcare practices, including:</p> <ul style="list-style-type: none"> <li>• Facilitating collaboration on developing and deploying new technologies for disaster preparedness, early warning systems, and telehealth services.</li> <li>• Establishing technology transfer agreements and joint venture partnerships to accelerate the development and implementation of climate-resilient healthcare solutions.</li> <li>• Promoting knowledge exchange programs and training workshops for healthcare professionals and technology developers.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Ministry of Health</li> <li>• United Nations Industrial Development Organization (UNIDO)</li> <li>• Private sector associations (e.g., Pakistan Business Council, Federation of Pakistan Chambers of Commerce, and Industry)</li> <li>• International development organizations (e.g., World Bank, Asian Development Bank)</li> <li>• Technology transfer and innovation centers</li> </ul>	Long Term	
<p><b>Action 3.6:</b> Develop and enforce robust regulatory frameworks to ensure that international climate finance is used effectively and sustainably for climate resilience projects in the health sector, including:</p> <ul style="list-style-type: none"> <li>• Establishing clear criteria for projects that align with the green taxonomy and contribute to climate-resilient health outcomes.</li> <li>• Implementing robust monitoring and evaluation mechanisms to track the progress and impact of funded projects.</li> <li>• Ensuring transparency and accountability in the use of international climate finance.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Ministry of Finance</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Economic Affairs Division (EAD)</li> <li>• Anti-Corruption Commission</li> <li>• Independent monitoring agencies</li> </ul>	Long Term	



Actions	Lead identity and Partner Institutions	Timeframe	Status
<p><b>Action 3.7:</b> Strengthen regional cooperation with neighboring countries to address transboundary climate risks and share disaster preparedness and health expertise, including:</p> <ul style="list-style-type: none"> <li>• Establishing joint regional platforms for knowledge exchange and information sharing.</li> <li>• Developing collaborative disaster preparedness and response plans for transboundary climate events.</li> <li>• Implementing joint health programs to address shared health risks exacerbated by climate change.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• Ministry of Foreign Affairs</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Regional organizations</li> </ul>	Long Term	
<p><b>Action 3.8:</b> Engage in knowledge exchange and collaboration with international partners to share best practices, lessons learned, and innovative approaches to climate resilience in disaster preparedness and health, including:</p> <ul style="list-style-type: none"> <li>• Participating in international conferences and workshops on climate change and health.</li> <li>• Hosting training programs and workshops for international partners on Pakistan's successful approaches to climate-resilient healthcare.</li> <li>• Contributing to international research initiatives on climate change and health.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change and Environmental Coordination (MoCC)</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Ministry of Health</li> <li>• International organizations (e.g., World Health Organization, UN Environment Programme)</li> <li>• Non-governmental organizations (NGOs)</li> <li>• Research institutions.</li> <li>• International experts</li> </ul>	Long Term	
<p><b>Action 3.9:</b> Execute comprehensive donor mapping, specifically focusing on National Database Development, Disaster Management Programs, and other health projects to attract international climate finance.</p>	<ul style="list-style-type: none"> <li>• Ministry of Climate Change &amp; Environmental Coordination (MoCC &amp; EC)</li> <li>• Ministry of Planning, Development, and Special Initiatives</li> <li>• Ministry of Finance (MoF)</li> <li>• Ministry of National Health Services Regulations, and Coordination (MoNHSR-C)</li> <li>• Donor Organizations (World Bank, ADB, IsDB UNDP, UNEP, USAID, UKAID, UN-Women)</li> </ul>	Short Term	

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Gender and Youth</b>			
<b>Outcome 1: Inclusion of Gender in Budgeting and Decision-making</b>			
<p><b>Action 1.1:</b> Conduct gender-responsive budget analysis to identify and address gender biases in resource allocation and allocate a specific percentage of climate budget resources to projects addressing gender-specific vulnerabilities and promoting women's leadership in climate action.</p>	<ul style="list-style-type: none"> <li>• MoCC&amp;EC</li> <li>• Ministry of Finance</li> <li>• National Commission on the Status of Women</li> <li>• UN Women</li> <li>• Green Climate Fund (GCF)</li> <li>• World Bank</li> </ul>	Long Term	<p>Gender-responsive budgeting is included in Pakistan's National Climate Change Policy. The policy also suggests resource allocation for gender in all projects and programmes.<sup>86</sup> Moreover, the updated NDC 2021 implies the development of guidelines to engender budgets for promoting gender-segregated data for inputs, outputs, and outcomes. Additionally, the NDCs insist on raising awareness in rural communities about women's participation in decision-making.<sup>87</sup></p>
<p><b>Action 1.2:</b> Update existing policies for balanced gender representation in key climate change departments, ensuring the involvement of women in leadership and decision-making positions.</p>	<ul style="list-style-type: none"> <li>• MoCC&amp;EC</li> <li>• Public Service Commission</li> <li>• UN Women</li> <li>• Civil Service Academy</li> <li>• Women Leadership Institute</li> </ul>	Short Term	
<p><b>Action 1.3:</b> Offer targeted recruitment programs and career development opportunities for women in relevant fields.</p>	<ul style="list-style-type: none"> <li>• MoCC&amp;EC</li> <li>• Higher Education Commission</li> <li>• Relevant universities and vocational training institutes</li> <li>• UN Women</li> <li>• Pakistan Youth Council</li> <li>• Private sector companies</li> </ul>	Short Term	
<p><b>Action 1.4:</b> Integrate gender studies into the curriculum at all levels, from primary school through university and vocational training programs.</p>	<ul style="list-style-type: none"> <li>• Ministry of Education</li> <li>• MoCC&amp;EC</li> <li>• Curriculum development bodies</li> <li>• UN Women</li> <li>• UNESCO</li> <li>• Civil society organizations (CSOs) specializing in gender and education</li> </ul>	Long Term	
<p><b>Action 1.5:</b> Develop gender-sensitive training materials and resources on climate science, adaptation, and mitigation strategies for the local public, as well as government individuals.</p>	<ul style="list-style-type: none"> <li>• MoCC&amp;EC</li> <li>• National Disaster Management Authority (NDMA)</li> <li>• Local governments</li> <li>• Media outlets</li> <li>• UN Women</li> <li>• Local NGOs</li> </ul>	Short Term	

86. <https://mocc.gov.pk/SiteImage/Policy/NCCP%20Report.pdf>

87. <https://unfccc.int/sites/default/files/NDC/2022-06/Pakistan%20Updated%20NDC%202021.pdf>

Actions	Lead identity and Partner Institutions	Timeframe	Status
<b>Outcome 2: Inclusion of Youth in Budgeting and Decision-making</b>			
<b>Action 2.1:</b> Dedicate a portion of the climate budget to provide grants and resources for youth-led climate initiatives, green businesses, and community projects.	<ul style="list-style-type: none"> <li>MoCC&amp;EC</li> <li>Ministry of Finance</li> <li>UNDP Youth Fund</li> <li>GCF</li> <li>Private sector companies</li> </ul>	Short Term	National Climate Change Policy insists on the provision of enabling opportunities for youth to lead in climate action. <sup>88</sup> Pakistan during the NDC revision in 2019 received support from UNDP to include youth as an important element. However, more focus is required to consider youth in budgeting and decision-making.
<b>Action 2.2:</b> Organize capacity-building programs and training workshops to equip young people with the skills and knowledge needed to become effective climate leaders, advocates, and decision-makers.	<ul style="list-style-type: none"> <li>MoCC&amp;EC</li> <li>National Youth Development Foundation</li> <li>Universities and vocational training institutes</li> <li>UN Climate Change Secretariat (UNFCCC) Global Youth Network</li> <li>Pakistan Youth Climate Network</li> <li>Private sector companies</li> </ul>	Short Term	
<b>Action 2.3:</b> Integrate youth perspective into curriculums at all levels, from primary school through university, focusing on practical solutions, youth leadership opportunities, and action-oriented learning.	<ul style="list-style-type: none"> <li>Ministry of Education</li> <li>MoCC&amp;EC</li> <li>Curriculum development bodies</li> <li>UNESCO</li> <li>YOUNGO Pakistan</li> <li>Youth-led environmental organizations</li> </ul>	Long Term	
<b>Action 2.4:</b> Update existing policies for enhancing youth representation in key climate change departments, ensuring the involvement of youth in leadership and decision-making positions.	<ul style="list-style-type: none"> <li>MoCC&amp;EC</li> <li>Public Service Commission</li> <li>UNDP Youth Engagement Unit</li> <li>Pakistan Youth Parliament</li> </ul>	Short Term	
<b>Action 2.5:</b> Enhance partnerships with youth organizations, civil society, and private sector actors to co-create and implement inclusive climate action strategies.	<ul style="list-style-type: none"> <li>MoCC&amp;EC</li> <li>Youth affairs and sports department</li> <li>UN Climate Change Youth Constituency</li> <li>YOUNGO Pakistan</li> </ul>	Short Term	

88. <https://mocc.gov.pk/SitelImage/Policy/NCCP%20Report.pdf>

## ANNEX III

# SUPPORTING POLICIES AND ACTION PLANS

Policy/Plan	Targets
SDG12 Action Plan 2017	Pakistan's SDG 12 Plan 2017 promotes Sustainable Consumption and Production (SCP), integrates SCP into development policies, facilitates capacity building and funding, disseminates SCP knowledge, enhances energy efficiency, optimizes renewable resources, reduces waste, promotes eco-labeling, develops smart cities, ensures affordable housing, manages waste, encourages sustainable transport, practices integrated water resource management, and protects forests, coastlines, and marine life. <sup>89</sup>
National Food Security Policy (NFSP) 2018	National Food Security Policy 2018 focuses on the following goals: alleviate poverty, eradicate hunger and malnutrition, and promote sustainable food production systems (crop, livestock, and fisheries) by achieving an average growth rate of 4% per annum; and making agriculture more productive, profitable, climate resilient and competitive. <sup>90</sup>
Sustainable Energy for All (SE4A) 2019	Sustainable Energy for All 2019 is the 7th UN Sustainable Development Goal, and Pakistan's National Action Plan identifies three specific objectives towards this goal. The first objective is universal access to energy by increasing energy consumption by 76% by 2030, compared to the consumption rate in 2016-17. The second objective is to double the share of renewable energy, with a projected increase of 655% by 2030. The third objective of doubling energy efficiency is to reduce primary energy intensity by 3.4% annually by 2030. <sup>91</sup>
National Energy Vehicle Policy (NEVP) 2019	Pakistan approved an ambitious <a href="#">National Electric Vehicles Policy</a> (NEVP) in 2019, with targets and incentives aimed at seeing electric vehicles capture 30% of all passenger vehicle and heavy-duty truck sales by 2030 and 90% by 2040. It sets even more ambitious goals for two- and three-wheelers and buses, 50% of new deals by 2030 and 90% by 2040.
National Climate Change Policy 2021	The National Climate Change Policy 2021 in Pakistan aims for climate-resilient, low-carbon development. It focuses on adapting vulnerable sectors, reducing greenhouse gas emissions by 20% by 2030, achieving carbon neutrality by 2050, and planting 10 billion trees under the "Ten Billion Tree Tsunami Programme." The policy also promotes cleaner energy sources, strengthens governance for climate action, and enhances public awareness. It serves as a foundational framework for future climate initiatives in Pakistan. <sup>92</sup>
National Electricity Policy (NEP) 2021 and National Electricity Plan 2023	Pakistan's National Electricity Policy of 2021 proposes a three-pronged goal for the power sector, namely access to affordable energy, energy security (uninterrupted supply), and sustainable energy. The Policy does not set any specific targets or specific actions since the implementation of the Policy is expected to take form under National Electricity Plans prepared together with Provincial Governments. As per the National Electricity Plan, a 65% target for clean energy has been set. To adhere to international commitments on decarbonization and emissions reduction, the power sector must undergo transformative changes. <sup>93</sup>

89. <https://www.switch-asia.eu/resource/regional-policy-advocacy-component-fact-sheet/>

90. <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC184963/#:~:text=Main%20goals%20of%20the%20Policy,profitable%2C%20climate%20resilient%20and%20competitive.>

91. [https://climate-laws.org/document/national-action-plan-sustainable-energy-for-all\\_3e78](https://climate-laws.org/document/national-action-plan-sustainable-energy-for-all_3e78)

92. <https://mocc.gov.pk/SiteImage/Policy/NCCP%20Report.pdf>

93. Ministry of Energy. (2021). National Energy Policy (NEP) 2021-2030. Government of Pakistan.

Policy/Plan	Targets
National Energy Efficiency and Conservation Policy 2023 and National Energy Efficiency and Conservation Plan, 2023	Pakistan needs a smarter strategy to meet its energy needs. The National Energy Efficiency and Conservation Policy 2023 and Plan acknowledge the untapped potential of energy efficiency. This policy and plan outline specific goals for different sectors, such as industries and electric vehicles, to reduce energy waste and address climate impact.
National Hazardous Waste Policy (NHWP) 2022	The National Hazardous Waste Policy 2022 in Pakistan sets the goal of aligning with international conventions, including the Basel, Stockholm, and Minamata Conventions, while targeting a reduction in domestic hazardous waste generation, rigorous regulation of transboundary waste movements, and the enhancement of stakeholder capacity for Environmentally Sound Waste Management. These collective objectives form a comprehensive strategy to elevate hazardous waste management practices in compliance with global environmental standards. <sup>94</sup>
Alternate Renewable Energy (ARE) Policy 2019	Pakistan's ARE 2019 sets several objectives and specific targets for the country's energy sector. The first objective of increasing the share of renewable energy is accompanied by a target of increasing renewable energy generation to 20% by 2025 and 30% by 2030. Some other objectives of the policy include indigenizing energy resources, enabling local manufacturing capacity, and displacing expensive energy with cheaper renewable sources. <sup>95</sup>
National Clean Air Policy (NCAP) 2023	The NCAP, launched in 2023, addresses air quality issues in Pakistan, focusing on reducing emissions from various sources, including industry, transportation, and power generation. The main objectives of NCAP Pakistan are to reduce PM2.5 emissions by 38% in 2030 compared to the baseline scenario and by 21% compared to 2020 levels and to reduce emissions by 81% in 2040 compared to the baseline scenario and by 70% compared to 2020. <sup>96</sup>
National Adaptation Plan (NAP) 2023	The NAP 2023 is a comprehensive framework focusing on effective adaptation strategies, stakeholder collaboration, climate finance mobilization, and inclusivity. It addresses climate risks and vulnerabilities and prioritizes seven key areas; agriculture and water resources, natural resource conservation, disaster risk management, gender equality, youth engagement for climate action, and marginalized community inclusion in adaptation efforts.
Generation and Transmission Expansion Plans	The preparation of these documents is entrusted to the System Manager / National Power Control Center (NPCC). In preparing them, the NPCC considers historical electricity demand, historical economic growth, future demand (current and new connections), projections of future economic growth, fuel supply options, cheapest generation, and transmission expansion to ensure power and electricity continuity, system stability, original natural resources, energy security, environmental integrity, and investments needed for infrastructure development.

94. [https://www.dra.gov.pk/news\\_updates/press\\_releases/national-hazardous-waste-management-policy-2022/](https://www.dra.gov.pk/news_updates/press_releases/national-hazardous-waste-management-policy-2022/).

95. Ministry of Energy. (2021). Alternate and Renewable Energy Policy (2019). Government of Pakistan.

96. Ministry of Climate Change. (2023). National Clean Air Policy (NCAP) 2023. Government of Pakistan.

Policy/Plan	Targets
National Drinking Water Policy 2019	Pakistan's Drinking Water Policy prioritizes safe water as a fundamental right, aiming to deliver clean, affordable supplies to every citizen. This ambitious plan tackles health challenges head-on, reducing waterborne diseases through increased access, resource protection, and improved quality. From building new water systems to upgrading existing ones, the policy emphasizes sustainability and efficiency. Community participation, public awareness, and robust management systems are key pillars that ensure equitable distribution and responsible resource use. Ultimately, this policy strives to quench Pakistan's thirst for both water and a healthier future. <sup>97</sup>
National Water Policy 2018	The Water Policy addresses issues related to declining water supply and quality, impacting the well-being of a growing population. Aligned with the National Climate Change Policy, it aims to mitigate the effects of climate change, including extreme weather events and rising sea levels. The policy includes strategic initiatives crucial for Pakistan's water, energy, and food security, emphasizing Integrated Water Resources Management. With 33 policy objectives, it aligns with climate adaptation and qualifies for green financing. <sup>98</sup>
National Disaster Risk Reduction Policy 2013	The National Disaster Risk Reduction Policy provides a general guiding framework for addressing major disaster risks in Pakistani society. This includes both natural and man-made hazards. The policy aims to promote priority measures to improve existing vulnerability and equally important measures to ensure that future development processes and programs strengthen resilience. The policy is a guiding framework for both disaster risk reduction and related development plans and programs to focus on priorities. <sup>99</sup>
National Water Conservation Strategy for Pakistan (2023-2027)	Water protection must be part of the planning, development, and management of all water resources. Pakistan Vision (2025) sets out a vision for the country to have sufficient water through conservation, development, and good management. <sup>100</sup>

97. <https://mocc.gov.pk/SiteImage/Policy/DrinkingWaterPolicy.doc#:~:text=The%20overall%20goal%20of%20the,affordable%20cost%20and%20in%20an>

98. <https://mowr.gov.pk/Detail/MWEwYjg0ZWQtZDNmMC00NTMwLWlxZTQtNjM1ZmZkZDZlZjU2>

99. <https://www.refworld.org/docid/5b42ef924.html>

100. <https://pcrwr.gov.pk/wp-content/uploads/2023/02/National-Water-Conservation-Strategy-for-Pakistan-2023-27.pdf>





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